

taaacacgaa gcggaaaaaa gatttgaaca tcttcaaadc ttatatggtg gagaattgta 60
 ctatacaagt gatatgtag aaaaactgaa gttaaagcaa attccaactt taaacaatac 120
 gaaatttgct ttaattgaat tttctatgca aacttcttgg aaagatatc atacagcttt 180
 gtcaaagtgt ttaattgctg gtattacacc agtcgttgcg catatagaga ggtataacgc 240
 tttagagaat caaaaagaac ggggtgaagga aattattaat atgggggtgtt acacacaaat 300
 aaatagttcc catattttga aacaaaaact ttttaatgat aagcataaac gctttaagaa 360
 aagagcccggt tatttttttag aggaaaattt agtgcatttt gtagcgagtgt atatgcataa 420
 ccttgatggt agaccgccat ttttagcaga agcttataag attatctgta gagatttcgg 480
 taaagaacgt gctaaccaac tttttattga 510

<210> 608
 <211> 534
 <212> DNA
 <213> Streptococcus agalactiae

<400> 608
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 atagtattac tgcacaagat ctacaagcgg ggagttttct tgcaaatgac tataaggaga 180
 ttattacgtc tactgacgtt ctagaaaaag ttatttcttc tgaaaaattg aattatcctt 240
 cgtctcagtt gctacaaaaa ataacagttt ctattttaaa agatacacgt gttatttcaa 300
 tatcggtcga agatgctaata ccaaaaatgt ctcaaaaatt agcaaattca gttagagaag 360
 cagcagtttc aaaaatcaag gcagttactc aagtagaaga tatcactact cttgagaagg 420
 gaaatttacc taaagcacca ttttctccta atattaaaaa gaatgtacta atcgggttta 480
 ttgttggtgc aggattatcg actattgttt tagttattat ggggtattttg gatg 534

<210> 609
 <211> 585
 <212> DNA
 <213> Streptococcus agalactiae

<400> 609
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 gaaggggaag gaaaatccac tacttcaaca agtttagctt tatcttttagc tcaagcagga 120
 tttaaaacat tattaattga tgcggatact aggaactctg ttatgtctgg aacctttaa 180

gcaactggaa ctattaaagg cttgacgaat tatttatcag gtaatgcaga tcttgagat 240
 attatctgtg aaaccaatgt tcctagactg atggctggtc cttcagggaa agtaccacca 300
 aatccaacag cattacttca gaacgcttat tttataaga tgattgaagc tattaataat 360
 atatttgatt atattatcat cgatactcca cctattgggt tagttgttga tgccgcaata 420
 atcgctagtg cttgtgatgg ctttggttta gtaaccaag caggtagaat aaaacgtaat 480
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<210> 610
 <211> 527
 <212> DNA
 <213> Streptococcus agalactiae

<400> 610
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 ctttttttac ttttattgct atgaattcga ttttattata tctattgaat tcatttttaa 180
 aatattatcg aaaatattct tacgctaagt tttcacgaga taccaaagtt gttttgataa 240
 cgaataagga ttctttatca aaaatgacct ttaggaacaa atacgaccat aattatatcg 300
 ctgtctgtat cttggactcc tctgaaaagg attgttatga tttgaaacat aactcgttaa 360
 ggataataaa caaagatgct cttacttcag agttaacctg cttactggt gatcaagctt 420
 ttattaacat acccattgaa ttatttggt aataccaaat acaagatatt attattgaca 480
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<210> 611
 <211> 360
 <212> DNA
 <213> Streptococcus agalactiae

<400> 611
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 cacacatggc ggcccagcga cgtttatgtc agttatttct ttagggaaat taccagttgt 180
 tgttcccagg agaaagcagt ttggtgaaca tatcaatgat catcaaatac aatttttaaa 240
 ttcgattgcc cacctgtatc cttggccttg gattgaagat gtagatggac ttgcggaagc 300

gttgaaaagg aatatagcta cagaaaaata tcagggaat aatgatatgt tttgtcataa 360

<210> 612
<211> 384
<212> DNA
<213> Streptococcus agalactiae

<400> 612
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gtcaagagca ccgtatagtc gtagatacga cttcttcctt atatacttat cgaattgtaa 120
aaacttctgt aatgaatcag aaattcaacg aaaactcatt agattttata acaattttta 180
atgaaataag tagtttggtt cctgccagat tagctaatta tgttgaagcg aaatttttaa 240
gagaaaagat aaagtgtctc cgaaaaatgt ttgaattagg tagtaatatt gacaataaaa 300
tcaaagtaca acgagagatt tttttcaaag acattaaatc ataccggtc tataaagcgg 360
tcaaatactt atcattaaag ggat 384

<210> 613
<211> 514
<212> DNA
<213> Streptococcus agalactiae

<400> 613
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gttgattcag atgataaagt ttcctctgat tacatagcga atttgtataa tgctattcaa 120
aaacatgatt cgtctatagc tatcgggtggc tatttagaat tttatgaaag acataatagc 180
ataagaaatt atgaatattt agacaaagtg atatcagttg aagaagcact actaaacatg 240
tatgacatta aaacttatgg ttcaattttt attactgcat ggggaaaatt attccataaa 300
tctatattca atgatttaga atttgcatta aataagtatc atgaggatga gttctttaac 360
tataaagcat acttaaaagc taattctata acatacatag acaagcctct ctatcattat 420
cgtatacgag taggtagtat catgaataat agtgataatg ttataattgc tagaaagaaa 480
cttgatgttt tatcagcatt agacgagcga ataa 514

<210> 614
<211> 524
<212> DNA
<213> Streptococcus agalactiae

<400> 614
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ttccgtatgg tttttcaaaa tattgtctct caattgaggt taattcttta gtggggttac 120
ctcatgacat aaggagtaag aaatataaag aactaccgag aaaaaaatta tttgatagtc 180
ttaacaaaga acaaaaatca ctgattttca aaatatTTaa aacaaaacca ttaactataa 240
ctccaaagtc agtattattg ttgacacagc cacttgacac agataaatgt tataaaacac 300
ctacagagag gtttcaaagt attcaagagc aatcacgatta ttttgacgat attgtccagg 360
aatatagaac gttagggtac aatgtttatt taaaagttca tcctagagat gtagtagatt 420
attccaaatt gccggtagag ctattaccat caaatgttcc tatggaaatt atagagttga 480
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<210> 615
<211> 613
<212> DNA
<213> Streptococcus agalactiae

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<400> 615
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tatgcTTTTT attggccttc agacgagcgg ttctttaagt tcagcccggg tcaaatacgg 180
agaagaattt aaaagctatt cagggagtgC cttttctgta ggtaatatat ggtttcttat 240
tatactTTTT atagcttttc tatttagaag ttttcttgca ccattagttg gtttttctga 300
atctattttt ttattaatgg tgtgtcaaag ttacgctagc tatgtggtga ctttctttgg 360
tcagtatttt atacaacaac agaggagttt ggctaattta atattatcct tagccaatgc 420
agtttcatct gttgcactat ctctattttt aatttttcat tgggccgatg actttttatc 480
tagggTTTTT ggagcttttg ttctactat aataactgga atagttgcct ttgcttatat 540
ttattatcat agcaaatctt ttacaatcc taagtatttt cggttcattg tcactgtgtc 600
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<210> 616
<211> 451
<212> DNA
<213> Streptococcus agalactiae

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<400> 616
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ttgtcccat tttgaaagggt ttgctttgtc gtgtcggata tagacaatat caataacatc 120

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atccacgtca agagggattg cgacaatttc gtcaccgttc aattttgagt tgaggatacc 180
 agttgccact gtataaccat ctaatccaat cattaaatta aacagagttg ctctatcact 240
 gacaacaatg gattttgggt gaggaatttg agacatcatt tcctcagaaa agtagaaaga 300
 attatgcagg ccttgatcat aactcagata aggataatct tctaaatctt tcatacttaa 360
 tttttttcta ttagctaagg gattggattt gctcacgaaa atatgaggtg tagtagtaaa 420
 aagagttgtg gcaattaagg aattatcgtc g 451

<210> 617
 <211> 361
 <212> DNA
 <213> Streptococcus agalactiae

<400> 617
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 gctcttcaag aagtgtgtt tgttctagaa tttgtcgcgc atatgacaga aattccatac 180
 catcttttgt taacgttatt ctttttggtt ttccaataaa aatttgata cccatctcag 240
 tctcaagggt cctaacagcg ttgaaagtg aaggttgggt aatgtagagt tgtttagcgg 300
 cttcattcat gctaccagtt tctacaatct taataacata ttgtaattgt tgaattctca 360
 t 361

<210> 618
 <211> 383
 <212> DNA
 <213> Streptococcus agalactiae

<400> 618
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 tactagtcca gcttttacga ctcttagcac aattgtaggg acttttattg gttttatttc 120
 aggagtatat ctctcaattg gctcggtagg aaaagcatta caacagggtta tgacatgggt 180
 tccattgact caaatcaatt ctcttttgaa acaggtctta atgaaggggt ctattgcgaa 240
 ggtatttgac aaagccaacg aagccactgt ctctaactat aaagaatcat atggtgttgt 300
 tttgcgtaat gctgatggag aaaggctgag taatcacttt atgttgattt atatcattgc 360
 cctcattctt attttattgg caa 383

<210> 619
<211> 535
<212> DNA
<213> Streptococcus agalactiae

<400> 619
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aaagtcgtag tggacaggca atcacttatac tatataaaac tatcttaaag aagataacaa 120
aactgaagtt ttctaataac tataaccgaaa tcagtaacta caataaaccc tccttagcctt 180
tatcaaaatt gaatggcttc aaagagtatg ataagacata tgaagacata ctgcattgtc 240
gatcattgag tagtcacctc cctaagatat tgaatacgtt tcgtatttcg aattattatg 300
gtaaaacata cgacatatca acttttcaaa ttatggagga aattgaaaat cccttggaag 360
aggagacaga aattaggacc aaagtctctg atgaagaaat attatttaaa gcagaagata 420
gtgcttcact tccttattat ttaaaaatga gcttggttca aatggaaatt gctaagttag 480
ataaccgtta tgttttacaa gttgactttt tatcggaaca agtaaagagg gttagc 535

<210> 620
<211> 519
<212> DNA
<213> Streptococcus agalactiae

<400> 620
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atacagatac ttgtggctac acttttttac tcaatgaaga tggacaggtt tatgatgatg 120
tgactttcta caaatttgat gataaatatt ggttggctag tcataaagct ttggattcctt 180
atthagacaa catcaatttt gactataaccg taacagatat ttctgacgag tataaaatgc 240
tgcaaattga aggaagatat tcgggagaaa ttgctcagtc attttatgaa tatgatattt 300
caacacttaa ttttcgtact ttgatagaga tgacttataa aggtgagaaa gggtatcttg 360
ctagatttgg ttttctgga gaatttggct atcaattttt cctaccatct tctatttttg 420
ctacttttgt ttcggatgtc tgtgaaggta tagcagagtg tggggatgaa cttgatagat 480
atttaagggt tgaagtggga caaccatta ctgatattt 519

<210> 621
<211> 573
<212> DNA
<213> Streptococcus agalactiae

<400> 621

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 tcacgactct attttagaat cttatacagg aagcataact agtgaccag aggttcctga 120
 gcaatacaaa gatgagacac gtaattttta atttgctttt accgcttttg aagaggctct 180
 tgcttcttca ggtgttaatt taaaagctta tcataatatt gctgtgtgtt tagggacctc 240
 acttggggga aagagtgtcg gtcaaatgc cttgtatcaa tttgaagaag gagagcgtca 300
 agtagatgct agtttattag aaaaagcatc tgtttaccat attgctgatg aattgatggc 360
 ttatcatgat attgtgggag cttcgtatgt tatttcaacc gcctgttctg caagtaataa 420
 tgccgtaata ttaggaacac aattacttca agatggcgat tgtgatttag ctatttgtgg 480
 tggctgtgat gagttaagtg atatttcttt agcaggcttc acatcactag gagctattaa 540
 tacagaaatg gcatgtcagc cctattcttc tgg 573

<210> 622
 <211> 610
 <212> DNA
 <213> Streptococcus agalactiae

<400> 622
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 ttgctagtaa tttcaacgac tttgaagcat tacgctttta aggggctaga ccacccaaaa 120
 ctgtcaaccc agcacaaattt aggaaaatgg atgatttttc caaaatgggt gccgtaacaa 180
 cagctcaagc actaatagaa agcaatatta atctaaaaaa acaagatact tcaaaagtag 240
 gaattgtatt tacaacactt tctggaccag ttgaggttgt tgaaggattt gaaaagcaaa 300
 tcacaacaga aggatatgca catgtttctg cttcacgatt cccgtttaca gtaatgaatg 360
 cagcagctgg tatgctttct atcattttta aaataacagg tcctttatct gtcatttcga 420
 caaatagtgg agcgcttgat ggtatacaat atgccaagga aatgatgcgt aacgataatc 480
 tagactatgt gattcttggt tctgctaatac agtggacaga catgagtttt atgtggtggc 540
 aacaattaaa ctatgatagt caaatgtttg tcggttctga ttattgttca gcacaagtcc 600
 tctctcgtca 610

<210> 623
 <211> 606
 <212> DNA
 <213> Streptococcus agalactiae

<400> 623

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agcgatatga tgctttcttt tctctttcaa cagacttta ttttttatca gaagaagaaa    60
ttgaacgcat ctgttctatt gaaagagact tgttacgcca agaaaaattt gatgctgtat    120
tgacagggtta ccgtctatct attgttaciaa gttgtcgttt agaaagcata ccattaattt    180
ggattatttc aggggcaacg catatcagtg aaattgttga aaactcagaa ggaatattgc    240
ctaattggaa gataagtaaa gctagtaagc ctcaaacaaa ggattttatc aaaagagtaa    300
tcactactta ttcaacaaat gttaaaacgt ggaataacta tattaaaaaa tatggtggca    360
aaccttttaa taatgcttta gaattattta ctggtgatct aaacttggtg acagattact    420
ctttgtttta tgaatttgat aaagattcgt cctataaaac gataggacct attttgatag    480
ataatgtagg tttttcaaaa tgcagccaaa ttaatcaaga caataagact gtactgctca    540
gctttggtac ttcatltaaa cgagattggg tggaatcttt tttaaagaca ttaccaaggc    600
attatc                                         606

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<210> 624
<211> 511
<212> DNA
<213> Streptococcus agalactiae

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<400> 624
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caagcaaata gacaggtaag caaagataaa ctgttaacag ggagttattt tgtgtaccaa    120
tgcttaaaaa agttagggtt taccaataag atttgtcagg aatctttttc tagtgtagt    180
agttatttaa ttggtttgcc aaaggggaaa attagttact ctaattctgg tgactatcat    240
attctaacct atgctcccag tggttcaact ggggttgata ttgagaaata caaagataga    300
tcagaacaaa cctaccaaaa ctacctagga gaatcagtta gtagtgatat ggattctaaa    360
ttattatttt ataaggcatg gttacaaaaa gaaatttcct ataaatgtgg gaaatctata    420
gatattacct atcaacaat gatagatggc tatatttatg gttatgcttt tgataatact    480
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<210> 625
<211> 231
<212> DNA
<213> Streptococcus agalactiae

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<400> 625
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ctaggtgatt ttcattttct tcaatttccc cacctggaag aaaccaagca ccattaggtg 120
 cctgtactaa aataatttta tcatgagttg gatttggaaat aatagcatag acaccaaatac 180
 gtgacctata gtttacatta tctatttttt caccgaaagt aggattagtc a 231

<210> 626
 <211> 240
 <212> DNA
 <213> Streptococcus agalactiae

<400> 626
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 gtttccctcca cctcggtttc ctctgattg tgtaggagga gtgtttggta aatcttggcc 120
 attaaaggct ctgaaattat ttaaactctc aaagaaatca tcaaagaaag gattgatgcc 180
 accaggcgca tgtgaaacat gatttaaac tgaaaaaagt ggattattag ggtcagtttt 240

<210> 627
 <211> 400
 <212> DNA
 <213> Streptococcus agalactiae

<400> 627
 ctattataaa gaacgagggc aaacactttt agacgttttg caaaccattt acgataaatt 60
 tggctattac aacgagcgcc aattttctct tgagttagag ggtgctgagg ggcaagaacg 120
 tattagtcgt attatggagg attttagaca ggaccaata ttacaagtag gtgagatgac 180
 attggagaat tctattgatt tcaaggatgg ttataaggat tttccaaagc aaaattgttt 240
 aaaatattat tttaatgagg gttcatggta tgctttaagg ccgtcagggc cggaacctaa 300
 gataaaatgt tacctttata cgattgggtg tacagaagca gatagtttat cgaaacttaa 360
 tgcaattgag tcggcttgtc gtgctaaaat gaatagtact 400

<210> 628
 <211> 628
 <212> DNA
 <213> Streptococcus agalactiae

<400> 628
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 ctatggagggt gctattataa tggcagcttt ggctgtgtc aaaactgggtg caggattagt 120
 tactgtagca acccaaagtt gcaatatccc ctctttgcat agtcaactac cagaggtaat 180
 ggcgtttgat agtgatgatt acaaatggtt ggaaaaatca attgttcaaa gtgatgttat 240

tgtaattggt cctggattag gagtatcaga atcatctcga aaaatTTTga accagaccat 300
 ggagaagatt caatcacatc aaagtgtcat ccttgacgga tcagccttga ctctgttata 360
 agaaggTgcg tttccgcaaa caaaggctaa aaatttagtg ttgacacctc atcaaaaaga 420
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 tcttaaatact tttcccaaag ggacgatTTT agtcgctaag agttcgcata cgcgtatTTT 540
 tcaagattta gacgaaaaag aaattatagt aggaggTcct taccaggcga ctggagggat 600
 gggggatact ttgtgtggta tgattgca 628

<210> 629
 <211> 388
 <212> DNA
 <213> Streptococcus agalactiae

<400> 629
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 ttatcccttt gttgcagcag gtatTTTtagc tgagaagTcg gaagaagtaa aaggaaaact 120
 gcatcaagct ggcctTTTtaa tcggtcatgc ttttcaagta cgtgatgata ttttagatgt 180
 gactgctagt tttgaagaat tggggaagac accaaataaa gacattgtag cagaaaagac 240
 aacttatcca aatttattgg gtttgataa gtcacaggaa atacttgatg atactttgaa 300
 aaaagctcag gcaattTTTtc aaaatctaga gaaaaagct aactttaatg ctagaaaaat 360
 aatagatata atagagggat tacggttg 388

<210> 630
 <211> 410
 <212> DNA
 <213> Streptococcus agalactiae

<400> 630
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 ggtaactcta actcaagcaa ctatttcacg tgatatgaat gaaattggca ttataaaagt 120
 gccatcagca aaaggTcgct atatttacgg tttgtcaaat gaaaacgacc ctatctttac 180
 aactgctgtg gcaaagccta ttaaaacaag tattttatca atatcagata agctactagg 240
 tttagagcaa tttatcaata ttaatgtcat accaggtaac agtcaattaa ttaaaacctt 300
 cataatgtca cattgtcaag aacatatttt tagtttgaca gctgacgata atagtctcct 360
 tttgattgca aaatcagaag cagatgctga tcacattcgt caatcaatga 410

<210> 631
<211> 240
<212> DNA
<213> Streptococcus agalactiae

<400> 631
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ctattgaagc atcacgccag ggagctaata ttgctggtgc agatgttaca gttattgatt 120
ctacttttac agaccagtgt caaaaattcc aggttgtaga agctgcgaaa ttagctaaag 180
agggagctga tttagatacc atcttggtc gtgtggaaga agtacgccag aagtcagaat 240

<210> 632
<211> 240
<212> DNA
<213> Streptococcus agalactiae

<400> 632
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gcttaattca agtacgtgag cctaatacag gaaaaatttc gactggggta caagataaag 120
taaaagtagg tactttttacg accaataagt cgcaactgaa taagacaatt gcactttatt 180
taaaacaata tcaaactaag aagatgaatt ataagattta tgctgcttca tcttctatac 240

<210> 633
<211> 200
<212> DNA
<213> Streptococcus agalactiae

<400> 633
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gcactttgtt acaaaaagact tcgttaaaga aggtgctgtg gtgattgatg ttggtatgaa 120
tcgcgatgaa aatggtaaatt tgattggaga cgttgtatth gaacaagtgg cagaagttgc 180
tagtatgata acacctgttc 200

<210> 634
<211> 545
<212> DNA
<213> Streptococcus agalactiae

<400> 634
tgaatctgga atgtttgata agaaagatat ttttgtagt acagattcag aattgtacag 60
agagatttgt ttagaacgcg gtatttcagt ggtgatgaga aaaccggaac tttcaactga 120

tcaggcaact tcgtatgata tgttaaaaga ttttttatct gactatgaag ataatcagga	180
gtttgtgtta cttcaagtaa cttctccact aagaaaatca tggcatataa aggaagcaat	240
ggagtattat tcttcacatg atgttgacaa tggtgtaagt ttttctgaag ttgagaaaca	300
ccctagtctg tttacgacat tgtctgataa aggctatgct atagatatgg tgggagcaga	360
taaaggttat cgtcgccaag atttacaacc tttatactat ccgaacggcg ctatTTTTAT	420
ttctaataaa gaaacttact taagggaaaa aagctttttc acctctagga catatgctta	480
tcaaatggca aaggaatttt cattagatgt tgatacgaga gatgatttta tccacgtcat	540
cggtc	545

<210> 635
 <211> 557
 <212> DNA
 <213> Streptococcus agalactiae

<400> 635	
ttattctttc gacgggtatg gcggtaatgg aagagatcca tcaagcggtg aatattttac	60
gtcagaatgg tacaaccgac atttctatTTT tacattgtac aacagagtac ccaacacctt	120
accctctctt aaattttaaC gttattcata ctttgaaaga tgaatttaaa gatttaacga	180
taggttattc ggatcattca attggatcag aagtacctat cgcagcagca gcaataggTg	240
cagaagttat tgaaaaacac tttacttttag atactaatat ggaaggTccg gatcataaag	300
ccagtgcac acctgatatt ttagctgctt tagttaaaagg ggttcgcatt gttgaacaag	360
ccttaggtag atttgaaaaa atcccagatc cagtagaaga aaaaaataag attgttgctc	420
gtaaatcagt agttgcttta aaaccaatta aaaaaggcga tattttattca atagaaaata	480
ttacggtgaa gcgcccaggT aatggtatTTT ctcttatgaa ctggtatgat atcttgggac	540
aagaagcgca agatgat	557

<210> 636
 <211> 532
 <212> DNA
 <213> Streptococcus agalactiae

<400> 636	
gctgaatacg gaataatgaa gccattgatt caaagattat caaaagataa agaagtcaac	60
ttacaaatta ttgcaacagc aatgcactctg gaagaaaagt acggctatac ttatcgTcaa	120
attgaagaag acggttttga tattgcttat aaagttccct tacatcttta tgatactgac	180

agaagaactg tatctactgc aatggcgcat ttacaactag gattgaccaa aatttttgac 240
aaggaagact atgatctagt catcatTTTA ggggatcggt atgaaatggt accagttgtg 300
aatgtagcgt tgatttataa tgtcccagta tgccaccttc atggagggga gacatcatta 360
ggcaattttg atgagtatat tcgccatgca attactaaga tgagtcacct acacttagtc 420
tctacagagg attttcgtca acgtgtgatt cagatgggag aacaacctca atttgtaatt 480
aacacaggag ctctcggagt ggaaaatgct ctatcaattc ctcctctaac ca 532

<210> 637
<211> 507
<212> DNA
<213> Streptococcus agalactiae

<400> 637
agtcattgctg atgcgattgc tccggttatt gatcctcttg tgtatgattt cgtaggtttt 60
tttgatgata aagatattac ggagcatgat gggtatcctg ttcttgga aa actttatgat 120
gtgctacctt acctgaaga tggctcaata gatgcagtat ttattacaat aggtgataat 180
gctaaaagga aagaactatt tgaatatgta gcaaaggatt attatgactt tattattaac 240
atcatttagtc ccaatgcttt agtattgaca ccagatagta tttgtggacg tggatcttt 300
attgggttttg gggcttttat aggttctaaa gtgaagctgt ttgataacaa tgttgtaaat 360
acaggagcgc tcattgaaca tcatactggt gtagaatcac actgtaatat agcacctaac 420
gctaccataa atggctcttg ttatattaga gaagaagttt atgtaggtag tgccagtgtt 480
attattcaaa ccttgगतat ttcatcg 507

<210> 638
<211> 510
<212> DNA
<213> Streptococcus agalactiae

<400> 638
gcatgaccaa gaggaactaa tgaaacctaa catgcacatt ctgatgttag atgaatttgg 60
taatacagaa tttaatgtca taaaagaacg ttatcaaagt ctttttgatg cttatcgta 120
gcttcgtaaa cgcgtatttg ataagcaaaa aatgaacaa gagaataaat cacgtattga 180
aatgctagaa tttcaaatag cagaaattga gtctgtagcc cttaaatcag atgaagacca 240
aacgctactc aagcaacgtg ataaattaat gaatcataag aatattgcag atactttgac 300
aatgcatat cttatgttag ataacgaaga gttttcaagt ttatcgaatg ttcgttctgc 360

aatgaatgac cttatggctt tagaagaatt tgatcgagaa tataaagatc tttccaccaa	420
tctttcagaa gcttactacg ttattgaaga agttactaaa cgtttaggtg acgttatcga	480
tgatttagat tttgacgctg gtttactaca	510

<210> 639
 <211> 627
 <212> DNA
 <213> Streptococcus agalactiae

<400> 639	
aataccttga aatgtgtcgt gattatgctc tcagccaagt tgacaaacaa cgtgatgatt	60
ttaaacgtct gggcgcttct gccgattggg aaaatcctta tattacacta acaccagatt	120
atgaagcaga tcaagtacgt gttttcggtg ctatggcaga taaaggatat atctatcgtg	180
gtgctaaacc agtgtattgg tcatggcat cagagtctgc cttgctgag gctgaaatcg	240
aatatcatga tattgattcg acatcactct actatgcaa taaagttaa gatggtaagg	300
gaattcttga tacagatacc tatatcgtcg tttggacgac aacaccattt actgtaacag	360
cttcacgcgg tttaacagta ggaccagata tggagtatgt tgtagttgta ccagtaggta	420
gtgagcgtaa ataccttctt gcagagggtc ttgtagatag tctcgtgct aagtttggt	480
gggaaaactt tgaaattgtg actcatcaca ctggtaaaga acttaatcac attgttacag	540
aacatccatg ggatacagaa gtagaagagt tggttatcct tggagaccat gttacaacag	600
attctggtac aggtattgtc cacacgg	627

<210> 640
 <211> 326
 <212> DNA
 <213> Streptococcus agalactiae

<400> 640	
acatatgatg tatctatctg gaactctagt ggctggtgca ttgttat ttt caccagctgt	60
attagaagta catgctgac aagtgacaac tccacaagtg gtaaatcatg taaatagtaa	120
taatcaagcc cagcaaatgg ctcaaaagct tgatcaagat agcattcagt tgagaaatat	180
caaagataat gttcagggaa cagattatga aaaaccggtt aatgaggcta ttactagcgt	240
ggaaaaatta aagacttcat tgcgtgcaa ccctgagaca gtttatgatt tgaattctat	300
tggtagtcgt gtagaagcct taacag	326

<210> 641
<211> 210
<212> DNA
<213> Streptococcus agalactiae

<400> 641
tatacaaaat caaaacttga taaggaaatc tggaatacac gctttactag agataaaaaa 60
gtacttaacg tcaaagaatt taaagtttac aatactttaa ataaagcaat cacacatgct 120
gttgaggttc agttgaatcc aaatgttacg gtacaacaag ttgatcaaga gattgtaaca 180
ttacaagcag cacttcaaac agcattaaaa 210

<210> 642
<211> 230
<212> DNA
<213> Streptococcus agalactiae

<400> 642
ggagcgcgtt tagtttacgc agtagatgta ggaacaaatc aattagtttg gaagttacgt 60
caggatcatc gtgttcgttc tatggaacaa tataatttta ggtatgcca aaaagaagat 120
ttcaaggagg gactgcctga atttgcatcg atagatgtct catttatctc tcttaatttg 180
attttaccag ctctaaaaga aatttttagtg gatggtggac aagtagtggc 230

<210> 643
<211> 522
<212> DNA
<213> Streptococcus agalactiae

<400> 643
ctaggggaatg gtctgcttgg attgataaag aaaatactgc tgataaatca cctattatcc 60
aacgtaccga acaaggccaa gtaagtctat ccagcgacaa aggctttaga ggtgctgtaa 120
cacaaaaagt gaacattgat ccactaaaa aatatgaggt caagtttgat attgaaacaa 180
gtaacaaggc tggacaagct ttccttcgta ttatggagaa aaaagataac aatacgcgac 240
tttggttttc tgagatgacc agcgttacta ctaacaaaca taccttaaca aagatatata 300
acccaaagtt agatgtctcc gaggtgacac ttgaacttta ttatgaaaaa ggaacaggtt 360
ctgttacttt tgataatata tcaatgaaag caaaaggccc taaagactca gagcatccac 420
aaccgcgtcac aacacaaatt gaaaaaagcg ttaatacggc tttaaacaaa aattacgttt 480
ttaataaagc tgactaccaa tacactctaa ccaatccgtc tc 522

<210> 644

<211> 586
 <212> DNA
 <213> Streptococcus agalactiae

<400> 644
 tcccacttaa ctatgttgct cttggagatt ctctgaccga aggtgtgggc gatacaacct 60
 ctcaagggtg ttttgttcca ctgctatcag aatcactcca taatcgatac tcttaccaag 120
 tgacttctgt taattatggt gtgtctggga atactagtca acaaatttta aaacgtatga 180
 cgacagatcc tcaaatcgaa aaagatttag agaaagctga tttattgacg ctaactgttg 240
 gtggtaatga tgtcttggt gttattcgta aagagctcag tcatttatca ctaaattcct 300
 ttgagaaaacc agcagaagca tataaggaac gtttgaaaaga aatccttgca aaagcaagac 360
 aagataatcc taaattgcct atttatgttt taggcattta taatcctttt tacctaaact 420
 ttccacaatt aactaaaatg caaacgtta ttgataattg gaataaagct acaaaaagaag 480
 tagttgatgc ttcagaaaat gtttattttg tccaattaa tgaccgcctt tataagggaa 540
 taaatggtaa agaggggtatt acagagtcac caaatagtca ggcaag 586

<210> 645
 <211> 511
 <212> DNA
 <213> Streptococcus pyogenes

<400> 645
 tagctcatat tgcgcaaag acaagtgttg ctattgcttt ggctggagca atgggtagca 60
 gtttattagc taatagcaca acgtacgtg ttagtggaag agaaaaataa aaaagcgatg 120
 tcaaatatga aacgaccaa gttatggaag ctaacgcaac ttctctctaaa gaagacaatc 180
 atgtcatgca cacattagac ggctcaatga gtactgtctg ggaggaaaat tcacctggtg 240
 gtgggtgttg tgaggactt tcctacaagt ttgcgtcccc gatgcatatt gggagaattt 300
 taattgttaa tggagacaca tctagcaagg agaattacta caagaaaaat agaattgcaa 360
 aggctgatgt taaatactat aacgggaata aattggcct ctttcaaaaa attgaattag 420
 gcgacaccta cactaaaaaa ccgcatcaca ttgagattga taaaaaatta gatgttgatc 480
 gtattgatat tgaggtaaca gaggtccatc a 511

<210> 646
 <211> 300
 <212> DNA
 <213> Streptococcus pyogenes

<400> 646
ttaaatacgc taaagccctc ttgagggctt ttttagatac aattgacatc ttaaaatgga 60
taccagtttc tgtgaaacaa tctttgattg tgaacaaaca aagcataatt tagagtatta 120
aaatctggac cctgctatct atggtaagtc tttttgttat tgtaaagag gttaagcgga 180
atgttaatat gttttagcta aaaaatgtag tgaaaaatga gtacgtagac tattgtaata 240
gtaattccgt aaaattgttg aaaaagaaaa tgggaaatac cttgtcaaat taagcaccct 300

<210> 647
<211> 579
<212> DNA
<213> Streptococcus pyogenes

<400> 647
ccggttatgt taatggaaag agaaaatata ttaggcgaga aggtttcaa actaagcagg 60
ctgcaaggga aaccttaatt agtttacaag ctgaacttga taaacctaaa tcaagtatga 120
catttggagc attgacagat caatggctaa aggaatatga aaaaaccgtt cagggcagta 180
cctacttaaa aacagaaaga aatattaata aacatatattt gccaaaactt gataaagtga 240
agattggaga catcaatcca ctacttatcc agcggcttac tgaagaatgg tgcaacgatt 300
taaaatatgg aggaaaaatt cttgggcttg ttaggaatat cttaaatcta gctgttagat 360
acggatatat caataacaat ccagctttgc caattacacc tccaaaaata aaaaggaaaa 420
gaaaaatgaa taataatttt tatacacttg atcaacttaa acaattcctt gaactagttg 480
aaaaaactga caacattgaa aaaatagcct tgtttagatt attagcattt actggaatac 540
gaaaagggga gcttctggca ctaacttggg atgatttga 579

<210> 648
<211> 507
<212> DNA
<213> Streptococcus pyogenes

<400> 648
gctatttggc cctgtgtagc aaaaaagtgc ctcatcatgt gcggagttaa atgaacgtcg 60
caatttttat taattttttt aaataagcag tagatgtaat ggctaccgat tggttttcct 120
acaaaagatg gctttacttt ttcgtcgtct cctaaaaata ggaaatcagc cttattttaag 180
atgcgatcgt tgcacacggc tattttgata gaagtatcaa tagctttttt tagcagttgt 240
gatgtctcaa aatctaaata cacatatcgt tccgaataag ctgtcttttag gcctccgcca 300
tctttttctac ctcttgcct tgattcgtct atcttttacga ccgcacaatc tttatcatta 360

aaagttatat tccctaattt tatgccagct acctcgcttc tacgcaatcc aagatatgtt 420
 atcctaacca ttgcgtagtc ataatcatca agcatttttc tggcaacttt atcccaagct 480
 ttaaattcctt gcattgatct acgtttg 507

<210> 649
 <211> 501
 <212> DNA
 <213> Streptococcus pyogenes

<400> 649
 gctcacggtc actaataatc tctactgggc gtgcgatatg gctggcaatt tcttttgaaa 60
 tatcttcttg atcctcgaaa ttagggcatc cagcagttag aatgacggtg aggtttggat 120
 gctgatgaat caccctacca aaatcagctc gtctgctctc gcctttattt cctggtgcac 180
 ctaaaatcaa cattaatttg cctgtctgat gttcttccac aacgctgagt aatttttcta 240
 agctgtcacc attatgggca taatcaacaa aaacttttagc atgatttgtc atagttagga 300
 cttccatacg gcctgggacg cgagtcttag cgataccttt ttgaatatca gctaggctag 360
 caccctaacg aaggcaggca agtccagctg ccatagcatt ttcttggtta aaatggccaa 420
 ttaattgaat gtcataatgg ccagctaatt gtccttttagc ttcaaaggag aaggcttggc 480
 tagtgggtgat ctggttgta g 501

<210> 650
 <211> 632
 <212> DNA
 <213> Streptococcus pyogenes

<400> 650
 ccagttcaa ttagattacc ctgttgacca agcaaacgca gcaactgttc aggaagccca 60
 gtctttcaaa caatctgttg aagcatctct tggtaaagaa aatgtcattg tcaatgttct 120
 tgaaacagaa acatcaactc acgaagccca aggcctctat gctgagaccc cagaacaaca 180
 agactacgat atcatttcat catggtgggg accagactac caagatccac ggacctacct 240
 tgacatcatg agtccagtag gtggtggatc tgttatccca aaacttggaa tccaagcagg 300
 tccaaataag gatgttggtg cagctgcagg ccttgatact taccaaactc ttcttgatga 360
 agcagcagca attacagacg acaacgatgc gcgctataaa gcttacgcaa aagcacaagc 420
 ctaccttaca gataatgccg tagatattcc agttgtggca ttgggtggca ctccacgagt 480
 tactaaaagc gttccattta gcgggggctt ctcttgggca gggctctaaag gtcctctagc 540

atataaagga atgaaacttc aagacaaacc tgtcacagca aaacaatacg aaaaagcaaa 600
 agaaaaatgg atgaaagcaa aggctaagtc aa 632

<210> 651
 <211> 534
 <212> DNA
 <213> Streptococcus pyogenes

<400> 651
 ttgatggtg ttgggtatgg ggcacgtaat tctattttaa tctcagttat agcgacccta 60
 attaatatca ccattgggggt agtggttagga gccatatggg gagttttctaa agcatttgat 120
 aaagttatga ttgaaattta taacattatc tcaaatatcc cttctatgct tattatcatt 180
 gttttgacct attcattagg tgcaggattt tggaatttga ttctagcttt ctgtatcact 240
 ggatggattg gtgtcgcta ctccatccgt gttcaaatct tgcgttaccc tgatttagaa 300
 tacaaccttg ctagtcaaac tttgggaaca ccaatgtaca agattgctgt taagaacctc 360
 ctgcctcaat tggtttcagt tatcatgact atgttgtcac aaatgctacc agtttatgta 420
 tcttctgaga cttcttattc cttctttggg attggtttac caaccaccac tccaagttta 480
 ggacgtttga ttgctaatta ttcaagcaac ttaacaacaa atgcctacct cttt 534

<210> 652
 <211> 340
 <212> DNA
 <213> Streptococcus pyogenes

<400> 652
 tcgaagagat tttctatgat ccaagacacc cctatacatg gagtttgctg tctagcttac 60
 cgcagttggc agatgaatct ggtgaacttt acgctattcc aggaacgcct ccatcacttt 120
 attaccaat tatcggagat gcctttgcac ttcgctcaga atatgctatg gttttagact 180
 ttgaaaaagc acctccggcg attaacgtat ctgagactca ttgggcaaaa acatggcttt 240
 tacaccaga ggctccaaaa gttcaaaaac cagaagtcac tcaaggtttg catcaaaaaa 300
 tcttaaggaa aatgtcacia caggaggaag gaaatgtctg 340

<210> 653
 <211> 542
 <212> DNA
 <213> Streptococcus pyogenes

<400> 653

caccagacaa cctttccttc aagaccttat caattatctc gaccagcatg atcacgttat 60
 attacgagag atcaaaaaag cctttcctaa tgtgacaggt attgacaagg ccatcgaaag 120
 ctatgttcaa gctggctata ttccgctga aaataagcgt tatggcatca atcttccttt 180
 ggtgagttct gatcagcagc tggccttaga cactatgctt tttgtggaca cctgttcagc 240
 tatgtatgaa aatatttttag cggttgtttt tgagactcag ctaacaaacc aaaccaatcg 300
 cgtgatgatc aaggaaaaga ccaacatcac gagagacgat ttgaccctgg ctaattattt 360
 ttaccgtctc aaaagaggtg agaagccatc agctgagcag atggacttgt atgacctctt 420
 gggggatgtg aatcaggaat atgcccttaa atatatgaca acttttttgc ttaaattcac 480
 gcgcaaagac tttgtgatgc aaaaacgtcc tgatatattt gtggaagctc tggttacact 540
 tg 542

<210> 654
 <211> 616
 <212> DNA
 <213> Streptococcus pyogenes

<400> 654
 ttaattgcag tagcagcatc tattggtggt gtaggtattg ccttgtaaac tgaaaattat 60
 gtcaaaaaag acatgaaagc agctgctcgt ttaatcatta acaacattga aatgttagtg 120
 atgtttttgt tacctgctct tactggggca attatttttag caagacctct atattctggt 180
 ttttacggag ctacgagga gcgtgccatt cacctctttg tggcggttct ctttcaaacc 240
 ttgctactgg cgctttacac cctcttttca ccgatgcttc aagctctttt tgaaaatcga 300
 aaagcgattt actactttgc ctatggtatc ttgattaagt tagttttaca gataccgctt 360
 atttatttgc tacatgctta tggtccttta ctacgacga cgattgcttt agtggtgccg 420
 atttatttga tgtatcgagc cctatatcag gttactcatt ttaaccgcaa actgttgcaa 480
 aaacgtttat tattaacctt aattgaaacc ttattaatgg gactggtcgt gtttgtggcc 540
 aactggctat tgggctatgc ctttaaaccg acaggccgct tgaccagcct tctttacctc 600
 ctcattattg gtggct 616

<210> 655
 <211> 208
 <212> DNA
 <213> Streptococcus pyogenes

<400> 655

agcagtaatc tttggtactg ttttgggtca tgttctatgt gtcccaattc atgcaagatt 60
 acttttttcc tgtctttttc agacagggtt ttattaacat agattattcg atgacagga 120
 taataaaaatc ctgacctatc ccacattgtg tctgggaact caaatagttt tatgtgtgtac 180
 tgattaagta tctcatctat cttcacca 208

<210> 656
 <211> 230
 <212> DNA
 <213> Streptococcus pyogenes

<400> 656
 ttatctgatt taggacatth atcaaatgaa gatggagcgg gagccatgat tagaagcctg 60
 ggggtacaata ccaaaaaaat atacctaggt catctgagta aagaaaataa catcaaagag 120
 ttagcgcata tgacgatggc caatcaactg gctatggcag atttagcagt aggtacagac 180
 tttacgggtcc atgatacttc tccagatact gcttgtccat taactgatat 230

<210> 657
 <211> 411
 <212> DNA
 <213> Streptococcus pyogenes

<400> 657
 cacgagaagt tcatttcaat ctttatttaa ttgaactgat gagccttttt tagaaagtta 60
 tcatgaaacg attacgtcca tatgtgaaag ggtacctaaa agaaagtatc ttaggtcctc 120
 tttttaaatt attagaagct ttatttgaat tattagtccc tttgttaatt gctaacatga 180
 ttgatataatc gattagtcaa cacaacagcc agggaaatth gaggggttgtt ttaacattat 240
 ttggtttagc aaccattggc ttattgctth ccgttacagc ccagtattth tcttcgaaag 300
 cagctgttgg ttttacaaga caaatgacag atgatttgtt taaaaaatc atgtttttga 360
 gcaaggagga ccaagacat cttggttatg ctagtctgtt atcacgattg a 411

<210> 658
 <211> 660
 <212> DNA
 <213> Streptococcus pyogenes

<400> 658
 aagaaatgga gcaaacaaac aaggagctth tgaaatcaag aaaaataaaa gtcaagaaga 60
 atataattat gaagtttatg ataacagaaa catacttcag gatggggaac ataaacttga 120
 aataaaaaaga gttgatggga caggtaaaac ttatcaagggt ttttcttthc agttaacgaa 180

aaattttccc actgctcaag gtgtaagtaa aaagctgtat aaaaaattga gtagtagtga 240
 tgaagaaaca ctaaagcaat atgcctctaa atatacaagt aataggagag gagatactag 300
 tggtaatctt aaaaagcaaa ttgctaaggt tctgacagaa ggttacccaa ctaacaaaag 360
 tgattggtta aatggattga ctgaaaacga aaaaatagaa gtaaccagg atgcaatttg 420
 gtattttaca gaaacgacag ttccggctga tagaagttat acgaatcgca acgtaaatag 480
 tcaaaaaatg aaagaagtgt atcaaaagct aattgataca acagatatag ataaatatga 540
 agatgtacaa tttgatttat ttgtgccaca agatacaaac ttacaggcag taattagtgt 600
 agagcctgtt atcgaaagcc ttcttggac atcgttgaag ccaatagccc agaaggatat 660

<210> 659
 <211> 410
 <212> DNA
 <213> Streptococcus pyogenes

<400> 659
 aacagggtga tcagcatagg ccatgacatt ggtggcttgc atagccaat gaatggcttt 60
 tttgtcagct ggactaagat ttccaaagta agattgatgg ggaaaacgtc cgtaagaaac 120
 caattcgtaa acagttatgc cgttagtgc ttcttgaact tgaggtaaaa gagctagttt 180
 tttagcaacc tctttagttt ctaatgtggc aatgttttgc ccatttaaata atacaactcc 240
 ctgttttggg ggtaataatc ttgtcagtgc ttttaataaa ctagacttcc cacagccatt 300
 ggcgccaata atggtcgtaa ttttaccttc aggaatataa aacgataatt tatcgatgat 360
 ggtacgctgt tcataggcaa ttgtgaggtc ttcagcacta attgttgtca 410

<210> 660
 <211> 718
 <212> DNA
 <213> Streptococcus pyogenes

<400> 660
 tcaaccata ccattgaaac tagcgccaga aactgcacaa agcggcaaaa ggtatcggta 60
 atgatgaggt gtaaaatggt tcataagatg aggaatgact aagccgataa aagaaatgct 120
 tccagcaatg gctacagctg ctgatgataa aataagaacc aaaatcataa agactgcact 180
 gatcaagttg gttttttgcc caagagcttt tgctgagac tcaactagac taaggacggg 240
 caggtgataa gataatagct gggctaaca aagactaaga ataataagag gagcaatata 300
 gccgatcatt tgccaattga ccccgacaag acctcctgct tgccagccga taacagcatt 360

tgccagatga tagtaattgg taataccttg acctaattgct gatagcagta tggaaacat 420
agctcctgct aagacaaggc ggagctgatg gtagcctttg ccagattgat aagaaaggcc 480
aaagactaag gttgctgcca ggctagaccg taacaacgaa agcagaataa tgaggaata 540
gtgcaagtga ggtacaaaacg cataagccag taccaaggct agtcctgctc cagcattaat 600
gcctaaaagg ccaggctcag cgataggatt acgtgtgatt gcttgcataa tagttccaga 660
aacagctaac gcagagccag ttaaggtagc accaaaaagt ctcggtaatc gtatagcg 718

<210> 661
<211> 574
<212> DNA
<213> Streptococcus pyogenes

<400> 661
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ccttgtttaa aaacttcagt cttcactttt tcaggagcat cataatggaa agcttgatgg 120
ataatctctc cgccacgtcc ccagtcctta ccaaaaagggt aaacgtcttt ttcataaagc 180
cccataatag taaagggtgc tttgtcacct gtaacggcct tgacttcttt ttcataagct 240
gctgttttag ttttccaatc ttttaaccac ttcttggttt tgtcttcttt gttaaagatg 300
cggccgaagt cagataaacac ttgtaaataa tcacgtttgc ggtattcaat cgagataaca 360
ggcgcaattt ctgccaattg tttaatatct tcttctgtag agccaacaac aatgaggtca 420
ggcttaagcg ttgtaacggc ttctaaatca gttgcagcaa cttgctttgc tttttttaca 480
gtctttgcta agatgggggt tttcttgta taagaagtaa ccccgactag attcatatct 540
aattttttga ggtaaccagt gtaagttgaa gccca 574

<210> 662
<211> 545
<212> DNA
<213> Streptococcus pyogenes

<400> 662
tctggatatt actgccaacc agatagactc gtcctactgt atctgcaaca agaagtagga 60
tcattccgat taaaatacta atgggtattg ttattttatg attactccct accaagtatg 120
tactaaagtg tccagctatt aagccgataa aactaatatt accaaccaaa agaactca 180
aagcacctaa gccagctgct aagacaagta tcaaacgacg cttacggttt aaagggagtc 240
ctagcccaat agcagtatta tcagctaata ccataatatt aaggaaatgg gcttgactat 300

aagtcaatag ccaaaaacac aataacaaag gagcgatgac actcagagta ggccagtcgt	360
ctcctattaa ttggccgcta agccaattga tgaccaaato gactttgtag cgattaatat	420
gaccaacaag agcaaccatt agacttgaaa gcatggtagt aacagctaca ccagtaagaa	480
ttaaccgtgt aggatcaatt tgtccttggt ttgtcaaaga tagccaataa acgctaaagg	540
ttggt	545

<210> 663
 <211> 647
 <212> DNA
 <213> Streptococcus pyogenes

<400> 663	
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tcctatagaa gcgataaaaa tggctactat ttatcattgg attaaccatt cttttttccc	120
tatcatcggt cgtggagaaa tgatggatat gactcgaggg cgttctatca gtcgttttaa	180
tgctcaatct catgttgctg gcattgaagc acttcgtgct attttacgta ttgctgacat	240
gtctgaagag cctcaccgtt tggcacttaa aacacgtata aaaacactcg tcacacaagg	300
gaatgttttt tacaatgtct atgataatgt gaaaacctat cacgatatca aacttatgaa	360
agagctacta agtgatactt ctgttccagt ccaaaaactt gatagttacg tagctagttt	420
caatagtatg gataaattgg cactatataa taataaacac gattttgctt ttggcctatc	480
catgttttcg aatcgaactc aaaattatga agctatgaat aatgaaaatc ttcattggctg	540
gtttacttct gatggaatgt ttacctata caataacgat ttaggacact acagtgaaaa	600
ctattgggca acggtaaaatc cctaccgctt acctggaacc acagaaa	647

<210> 664
 <211> 585
 <212> DNA
 <213> Streptococcus pyogenes

<400> 664	
cttactggtc ccaaagggtc taaaggagac actggtctcc aaggtaaaac tggagggaact	60
ggtcctcggg gccctgctgg caagcctgga acgacagatt atgatcaact ccaaaaataaa	120
ccagatctag gtgcgtttgc acaaaaagaa gaaactaata gtaaaatcac caaattagaa	180
tcaagcaaag cagataaaag cgctgtttac tcaaaagcag agtcaaaaat agagctagac	240
aaaaaattga gcttaacagg cgcatagtg acaggacaac tacagtttaa acctaataaa	300

agtgggtatta aaccctcatc ttccgtagga ggagcgatta acattgatat gtctaaatcg 360
 gaagggtgctg ctatgggtgat gtatacaaat aaagatacta ctgatggacc attgatgatt 420
 ttacgtttctg acaaagatac gtttgatcag tcagctcaat ttgtggatta cagcggtaaag 480
 actaatgctg taaatattgt aatgcgccag ccaagcgac ctaatttttc ctcggcactt 540
 aatataacca gtgccaacga aggcggtagt gcgatgcaaa ttaga 585

<210> 665
 <211> 537
 <212> DNA
 <213> Streptococcus pyogenes

<400> 665
 aatctactga ctaacaagcc aaatattgat ggattagcga caaaagtcga gaccgctcag 60
 aaactacaac aaaaagcaga taaagagacc gtctatacaa aagctgaatc gaagcaagag 120
 cttgacaaga aattaaatct caaagggtggc gttatgacag gtcaactaaa atttaagcca 180
 gccgccactg ttgcttattc ctcgtaacg ggtggagcgg tcaatattga cttgtcgtct 240
 accagagggtg ctgggtgtgt tgtctattct gacaatgata ccagtgatgg gccgttaatg 300
 agcttgcgga cgggtaaaga gacctttaat caatcggcgc tttttgtcga ctataagggg 360
 acaacaaatg ccgttaatat tgcgatgcgt cagcgaacca cccccaattt ttcacgcgcg 420
 cttaatatata ctacgcgcaa tgaaaatggg agtgcaatgc agctacgagg gtcagaaaaa 480
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<210> 666
 <211> 516
 <212> DNA
 <213> Streptococcus pyogenes

<400> 666
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 aaagtagata gtagtgtaac gacagaagca actagtgcta acaaagctgt ctatgagaag 120
 tatattgatt ctcttgccaa tggctggcag gtaaaacgct tccccactag caaacagggt 180
 tatgcaattc gcaatattcc tatttacgaa cgtgtttgga actttttctc aaatctagtt 240
 ggtattgac acccttgga gattcaggat aaagataatc caaaattagc taggtatatt 300
 cgcctagaaa agataaatc aggtggctgg tcacttggtg ggtcggggac aaaacataaa 360
 tatctcctct atactaacgg aaaatttctt tatcttcacc aaaactttgt taccctaaac 420

ttaggaacat cttatccaac atacagcaat attcctgttc ttcaggttat ttcacaaggg 480
 caaggacgaa cagctcttca agatgtgacc ttccca 516

<210> 667
 <211> 604
 <212> DNA
 <213> Streptococcus pyogenes

<400> 667
 tctcactagg caaacctatt atcgttttat taaaaataat cttgacattt cttcgaaaaa 60
 gttactttat atcttagaca acttgaatgt caatgttgat gagtttctct ttattagtaa 120
 taactttaaa caatataaag aatttattga tatggatacg gcaaaacatt attttgaatg 180
 ccgaaacata gaaggtttaa atcatatcct tgattcttat aaagatagta agtcaacaaa 240
 ggaaaagaac ctttttgctt tgggtcaagggt gttattagca actcttactg aggaagactg 300
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 tgagactgtg ctttttaata attgtatgtt tatttttagag tcttgcttta ttgagatggt 420
 gttttcaaaa gttattgtga acctcgataa atacaatacc ctaaggtatt atgggaatga 480
 atcgattcgg atgtttgtca atatgttgat tttgtttatt cagcgacaag agtatgataa 540
 agcttctgag attttggtcaa aaattgaaga ttatcagcta aatgatgatt gcttatatga 600
 acgg 604

<210> 668
 <211> 522
 <212> DNA
 <213> Streptococcus pyogenes

<400> 668
 cagacgatca gcaagataaa gaaatgcctg ttctttcaac aaaccgtttt gagccaaaca 60
 aggcttacga ctatgcttat gctaatcgtg ggatgaaaga ggatgatattt aaggatgtca 120
 aaggcaagat tgcccttatt gaacgtggcg atattgattt caaagataag gttgcaaacg 180
 ctaaaaaagc tgggtgctgta ggggtcttga tctatgacaa tcaggacaag ggcttcccga 240
 ttgaattgcc aaatgttgat cagatgcctg cggcctttat cagtcgaaaa gacggtctct 300
 tattaaaaga caatcccca aaaaccatca cttcaatgc gacacctaag gtattgcca 360
 cagcaagtgg caccaaacta agccgcttct caagctgggg tctgacagct gacggcaata 420
 ttaagccaga tattgcagca cccggccaag atattttgtc atcagtggct aacaacaagt 480

atgccaaact ttctggaact agtatgtctg cgccattagt ag 522

<210> 669
 <211> 554
 <212> DNA
 <213> Streptococcus pyogenes

<400> 669
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 aagcaggtca gaaaatggat gatatgctta actctaacga tatgattaag cttgctccca 120
 aagaaatgcc actagaatct gcagaaaaag aagaaaaaaa gtcagaagac aaaaaaaga 180
 gcgaagaaga tcacactgaa gaaatcaatg acaagattta ttcactaaat tataatgagc 240
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 agaaagctga taaatttatt gtcattgaaa gaaagaaaaa aaatatcaac actacaccag 360
 tcgatatttc cattattgac tctgtcactg ataggaccta tccagcagcc cttcagctgg 420
 ctaataaagg ttttaccgaa aacaaaccag acgcggtagt caccaagcga aaccacaaa 480
 aaatccatat tgatttacca ggtatgggag acaaagcaac gggtgaggtc aatgacccta 540
 cctatgccaa tggtt 554

<210> 670
 <211> 518
 <212> DNA
 <213> Streptococcus pyogenes

<400> 670
 agtgactaag aaacttgatg ttagagatgc tagagatttt tttattaact ccgaaatgga 60
 cgaatatgca gccaatgatt ttaaagatgg agataaaata gctgtgttct ccgtcccatt 120
 tgattggaac tacttgtcag aaggaaaagt cacagcatat acgtacggcg gaataacacc 180
 ctaccaaaaa acttcaatac ctaaaaatat ccctgttaat ttatggatta atggaaagca 240
 gatctctggt cttacaacg aaatatcaac taacaaaaca acagttacag ctcaagaaat 300
 tgatctaaag gttagaaaat ttttaatagc acaacatcaa ttatatctt ctgggttctag 360
 ctacaaaagt ggtaaattag ttttcatatc aaatgataat tcagataaat attctttcga 420
 tcttttctat acaggatata gagataaaga aagtattttt aaagtataca aagacaataa 480
 atctttcaat atagataaaa ttgggcattt agatatag 518

<210> 671
<211> 612
<212> DNA
<213> Streptococcus pyogenes

<400> 671
ttatctgtag ggctcgtctc cgctcggaacg atgctgatag ccccgacagt tttaggacag 60
gagggttagtg ctagtagtag tacggagagc agtaccacta cagctaatac tgggtaccggt 120
acggcaagtg ggatgactgc cactactcct agtgctacga cagatactgg tgaagcagct 180
gggagcggag ctaggagtga agctaattggt gcatcgtccg tagtatctag cgaagaaagt 240
cagagttcag gcactactcc agcctcacco caagcacaga cagctccagc agcaacgtca 300
acatcatcgg tttcttctag taatgagaaa actcccaaga cagcaactac aactacatca 360
tcgactccag tagcaagtac cagtaataat agcaacaaag taactagtac tgaagctgaa 420
acacagacgg tggacgtgga acggtataca gttgataagg aaaattcaaa gctaaatatt 480
aaagacggta agactccaaa aactaggagt agtgttaata aagacacaaa acttattaga 540
aaccgcgatg acaaacagcg tgatatcggt gatgttactc ggacagttga aactaacgaa 600
gatggcctat tg 612

<210> 672
<211> 500
<212> DNA
<213> Streptococcus pyogenes

<400> 672
gtactagaca tggccgaaaa agtgggaata agtttaccta gtagtctgaa gtcggcagtg 60
aaagtccttg gcttaactaa tagtgcaata ggttctatatt tagggaaagg tttgacagag 120
taccttggtt tgacagaata tagttcagat aacttagatg gaggagggtt tgattatagt 180
aaacgtgtag gggaagggtta ctactaccac agtttatcag ataggaaata tgaaaataca 240
atgcccttg aagaagctat caggacggcc ttagcatcta atttcccaa actcacagat 300
aattggtttt tcgatatctt aaatagtttt gtcaataaag atacagttga gaaagctaaa 360
ttagacgtaa ttatgaagggt acttaatagt attttttaca aaaaagaata tcgctattac 420
aaccataacc tgtcagcaat agccgaagct aaaatggctc aacaagaggg cattaccttc 480
tattccgttg atgttactga 500

<210> 673
<211> 568

<212> DNA

<213> Streptococcus pyogenes

<400> 673

tccaagccaa cttcacagat ctagtttagt taaaaacott caaaatatat attttcttta	60
tgagggtgac cctgttactc acgagaatgt gaaatctggt gatcaacttt tatctcacga	120
tttaatatat aatgtttcag ggccaaatta tgataaatta aaaactgaac ttaagaacca	180
agagatggca actttattta aggataaaaa cgttgatatt tatggtgtag aatattacca	240
tctctgttat ttatgtgaaa atgcagaaag gagtgcattg atctacggag gggtaacaaa	300
tcatgaaggg aatcatcttag aaattcctaa aaagatagtc gttaaagtat caatcgatgg	360
tatccaaagc ctatcatctg atattgaaac aaataaaaaa atggtaactg ctcaagaatt	420
agactataaa gttagaaaat atcttacaga taataagcaa ctatatacta atggaccttc	480
taaatatgaa actggatata taaagttcat acctaagaat aaagaaagtt tttggtttga	540
ttttttccct gaaccagaat ttactcaa	568

<210> 674

<211> 597

<212> DNA

<213> Streptococcus pyogenes

<400> 674

agcattaggt ggatttggtc ttgctaacc agtatttgcc gatcaaaact ttgctcgtaa	60
cgaaaaagaa gcaaaagata gcgctatcac atttatccaa aaatcagcag ctatcaaagc	120
agggtgcacga agcgcagaag atattaagct tgacaaagtt aacttaggtg gagaactttc	180
tggctctaata atgtatgttt acaatatttc tactggagga tttgttatcg tttcaggaga	240
taaacgttct ccagaaattc taggatactc taccagcgga tcatttgacg ctaacggtaa	300
agaaaaacatt gcttccttca tggaaagtta tgtcgaacaa atcaaagaaa acaaaaaatt	360
agacactact tatgctggta ccgctgagat taaacaacca gttgttaaata ctctccttga	420
ttcaaaaggc attcattaca atcaaggtaa cccttacaac ctattgacac ctgttattga	480
aaaagtataa ccaggatgaac aatcttttgt aggtcaacat gcagctacag gatgtgttgc	540
tactgcaact gctcaaatta tgaaatatca taattaccct aacaaagggt tgaaaga	597

<210> 675

<211> 553

<212> DNA

<213> Streptococcus pyogenes

<400> 675
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atgttaaaaag tgatttactt tatgcataca ctataactcc ttatgattat aaagattgca 120
gggtaaaattt ttcaacgaca cacacattaa acattgatac tcaaaaatat agagggaaaag 180
actattatat tagttccgaa atgtcttatg aggcctctca aaaattttaa cgagatgatc 240
atgtagatgt ttttgatta ttttatattc ttaattctca caccggtgag tacatctatg 300
gaggaattac gcctgctcaa aataataaag taaatcataa attattggga aatctattta 360
tttcgggaga atctcaacag aacttaaata acaagattat tctagaaaag gatatcgtaa 420
ctttccagga aattgacttt aaaatcagaa aataccttat ggataattat aaaatttatg 480
acgctacttc tccttatgta agcggcagaa tcgaaattgg cacaaaagat gggaaacatg 540
agcaaataga ctt 553

<210> 676
<211> 504
<212> DNA
<213> Streptococcus pyogenes

<400> 676
ataatctttc atgggtacgg aagtgtaaaa tcagatagtg aaaatattaa agacgttaag 60
ctacaattaa attacgcata cgaaatcata ccagtagatt atacgaattg taatattgat 120
tacttgacta ctcatgattt ttatattgat atttccagtt ataaaaagaa aaatttttca 180
gttgattctg aggtcgagag ctatattaca acaaagttta cgaaaaatca aaaagtaaat 240
atttttggtc ttccgtacat atttactcgt tatgatgttt attatatata tgggtggggtt 300
acaccatcag taaacagtaa ttcggaaaat agtaaaattg taggtaattt actaatagat 360
ggagtccagc aaaaaacact aataaatccc ataaaaatag ataaacctat ttttacgatt 420
caagaatttg acttcaaaat cagacaatat cttatgcaaa catacaaat ttatgatcct 480
aattctccat acataaaaagg gcaa 504

<210> 677
<211> 645
<212> DNA
<213> Streptococcus pyogenes

<400> 677
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agcaaaatgt aaaagtctca ttaaatagtt attctaaaag agcagcggtt agaactactc 120
catttggtat ctttactgct attaatacag ttgatttgac aaaggggaacc acttctaatag 180
tacaaaaggt tagtttttatt aaaaaagcag tcccagatta ttcatggata tattctctag 240
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ttactcaagg tgacagatat gtactaccat ttacagtga tgaatcagag gaagatagaa 360
acataagttt ttcaaaacca attaagttac ttgtagaaaa atgtaaaact cgatatataa 420
aatatgaaga gttaatagat gtatttataa ataattatcc agatatagtg tcagacatgc 480
tagagtcata tatacacgac ttagttacaa atgatttttt aatttcagat ttaagaccac 540
caatttgtaa tatcaattcc ttagattatc tactatctaa attagaagaa ggaacactat 600
gtactgactt aactacttta aagaagatga ttgaagatta caacg 645

<210> 678
<211> 703
<212> DNA
<213> Streptococcus pyogenes

<400> 678
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cttttttgat aaatctctga gtcatggtgt gccatcatta atcttaatgt atagttcact 120
atataaagtg acaaaagatg agagatatct aacattctcc aacatatatg ttgagaaatt 180
agtagacata atctctagag atggtataga atctccgtct ctctatgctg gcactgcagg 240
tattgcatta gctatttaaag aagcgagtat atctggaaag tattatccga aattattatc 300
atccttaaat tgtcttctaa aagaacaaat taaagacaaa ttggtagtaa gtttttctaa 360
tattgagaaa ggaattattg agccatatga ttatgatatg gttaacggat ttagtggaat 420
aactaattac ttactccttg aacaagaatt tttttctgta gagttaaatc aaattggaaa 480
ttatcttttg aaatatattg agacaatttt aaataaggta actaattggt ctgaagatag 540
agaagctgaa tttgatctag gaattgcaca tggaattact ggtcctatgc taatcctagc 600
aaaattaaaa tcagaaaaaa ttttgagtgt agaagtagga gatatactga ataaagctat 660
aaatttaatg tttttattta gaagggatga caaactatgg cct 703

<210> 679
<211> 593
<212> DNA
<213> Streptococcus pyogenes

<400> 679
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 tcaagggatg ttgatttaaa aaaggtagaa tatgccagag ttctattgat agctcttata 180
 aatctaataa ttagtatgat tttaagctta atgcttattg taattagttt tgcctacct 240
 actccaagtc ttattagtat aggtaggata ctattaacta tcttggttaat ttggttgact 300
 acactatggc aaatcccgtt tattttatgg ctatcaagaa aaattaatgt gtattttgct 360
 atgattatta atattatata tccactaatt attggtacaa gtttttctct cttaaataaa 420
 tgggtattgt tcccttatga ttggtcgttg aagttgcttg agccaatgac aagaatgaga 480
 ataaatagta taccttttgg agcggagttt gttccagact actcacagat ttttatatca 540
 ttgttcctag gaattgcttt tttcatctta ctgaccaatc tatttgctat ctc 593

<210> 680
 <211> 544
 <212> DNA
 <213> Streptococcus pyogenes

<400> 680
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 gtaagacaag tgggtctatt atttttgaag gtagagaatg gtcacgtcgg gatctgcgaa 120
 aaatcgggag tattattgaa gaaccaccac tttataaaaa ttgagtgct tacgataata 180
 tgaaggtagt tacaacaatg cttggtgttt cagaaagcac tatacttcca ttattaaata 240
 aagttggtct aggaaatatt gacaagagac cagtaaaaca attttctctt ggaatgaagc 300
 aacggttagg tatagctatc tctttaataa attcacctaa actacttata ttagacgaac 360
 ctactaatgg cttggacca attggaattc aagaattaag ggaaattata gaggcattta 420
 aatcagaagg aatgacaatt atgatttcaa gccatatact gtcagaagtt gaacatctag 480
 ctgattttat tggatttatc tatgaaggaa agattattct ggaaaaagaa tatgacggct 540
 ctga 544

<210> 681
 <211> 548
 <212> DNA
 <213> Streptococcus pyogenes

<400> 681

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ggaggtttac aaagcaggac tgtattattc tcctactttc aaatagtagg tgtacttctt      60
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tataaatatt tattgggtta ctcacagtcg aattataaac catttattgt agaattagta      180
tttctatggt tatgctattg tatagtatta attatttcaa ttactatatt tattctttta      240
ttgaaaacta ttggtataaa tgtatctctc agactactta ttttgaatag tttaatttat      300
atcatttttg cctatgtaac ctatctgata aatcatatta ttagctatat atttagtaca      360
ggtgtggcat taggtatttc aatggtagggt gttattgctg cagcattttg tgaaacgagc      420
cttggtgata aggtatgggt tcttattcca tgggcatggc ttttaagaat atcagatact      480
ctatataacc aacagaaaat ggcaattggt ccacttattg ttatatTTTT tgtttcatgc      540
acagtagc                                     548

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<210> 682
<211> 311
<212> DNA
<213> Streptococcus pyogenes

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<400> 682
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aggtcttgct taatctgaac aacaacgata tagagaaccg ccgtttggcc agatatgact      120
atgccaagat gaacttgact gcagctataa aaatagaaga agttgagaaa gagattgaaa      180
cttctcaaaa tgaacttaat atatccatag atgagtatga atatctagta agaaggttgg      240
aaaagtttgg agagatcttg agtgatagca aaattatcga tacttctcga aatgaaatac      300
aatgggagta a                                     311

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<210> 683
<211> 521
<212> DNA
<213> Streptococcus pyogenes

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<400> 683
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gataaacagt caatcaaaca gttgaacaat tatatgaaga cattgggatt agattatggt      180
gtttttgata gaaaaacaga taaagctatg gaaggaaaat atttatctaa agaattttct      240
ttatttaacg aagttgcaga agaaaaaat aatctgactt ttaattctgt acattatgat      300

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ttatatacta atatcaatta taatattgtc ataagatata atgagatacc ggagttttct 360
aaccattacc ttagaaatgt ttcataatac atgttgacat tttatattct gggaatagga 420
acgagtatca gcattgtagt tgctttaaca cggtttgtaa aagaaatttc tttgaatttc 480
aaggaaatca agaagttagc aaataaaatg gggatagaag t 521

<210> 684
<211> 548
<212> DNA
<213> Streptococcus pyogenes

<400> 684
cttatgaaga ctgctttgga gattgaaaat tatcatgtta taacctgtca agagatagaa 60
ttaccaatag tttttgatga ttttaaagga tatgatttga tcttattgga tatcatgatg 120
cctaataata gtggaactga gttttgttat aaaattcggg aagaagtcca ttctccaatt 180
atTTTTgtta gcgctttaga tggcgataat gaaattgtcc aagctttaaa tataggggga 240
gacgatttta ttgtgaaacc atttagctta aaacaattcg tagctaaagt taactotcat 300
ttgaagagag aagagagagc aaagataaag aatgaggctg aggagagagt gaagcgcagt 360
tttccaccta tagaaatcta tctagaggaa cgtatgttat atattgataa acagccgcta 420
ttcctgactt atagagagta cgaaatttta gaattactgt cacgtcatcc gtataaagtt 480
ttcacaaaag aagagatata tgaacaagta tatagcgatg aagcttcagc attgtttcat 540
tctatttc 548

<210> 685
<211> 543
<212> DNA
<213> Streptococcus pyogenes

<400> 685
ttctccctac tgggtgttctc aattgctatt agcttatttc aagggatatt acccattttt 60
agtatgctac tagttcaaaa aatgttaaac attataacga ctgatataaa aaattttcac 120
acattgatga ttgcttttat ctcatatatt gctttaacat tattgacaat tataatagga 180
gaagttgata gttatattga tactaaatta cagatacttc ttactataa gatgaaccat 240
ttagttatgc agaaaactgt aaagttaaca ttggctgaat ttgagacacc agaaatctat 300
gatgatatca ctgcataca aaatcaaata tcttataaac cttttcaaat atataagtca 360
attattttctg tattatcttc gttagtatca ttaatttctc catttggtat tttattaaat 420

tggaagatat caatthttcc actthttactt atccttccta tcgtttctat atatatctac 480
 ttgaaaattg gtaaaaatga atttgagata ctatataaaa ggagtagcga tgagagagca 540
 aat 543

<210> 686
 <211> 512
 <212> DNA
 <213> Streptococcus pyogenes

<400> 686
 agcgatcctt atcttacttg tttttgttgc tttttacttt atccatcttg cgggtgcgtga 60
 ttaccgaaat gcacgtatta ttccgatgat gagccataaa atccgagact tgattaatgg 120
 tcgctataact gatataatcg acgaaaaagc agacattgag ttaatggagc tttcagacca 180
 gttaaattgac ctgtcagatg tttttcgctt gacgcatgaa aatcttgccc aagaaaaaaa 240
 tcgcttgcca agtatthttgg cttatatgtc agatgggtga cttgctacag accggtctgg 300
 taaaatcatc atgattaacg agacagctcg caagcaatta aatttaagta aagaagaggc 360
 actaaagaaa aacattacag atttgttaga aggtgatact tcatatacct accgtgattt 420
 ggtatccaaa acaccagtgg taactgttaa tagccgaaat gatatgggtg agtttgtctc 480
 attacgcttg cgctttgcgt tgaataggag ag 512

<210> 687
 <211> 520
 <212> DNA
 <213> Streptococcus viridans

<400> 687
 acgtcctctt aacagtcaca aggggacttt tggccgtgtc cttttgattg gcggcaacta 60
 cccttacggg ggtgctatca tcatggctgc cttgcttgt gtcaatagcg gagctggttt 120
 ggtgacgggt gcgaccata aggacaatat cacagctctg cacagccatt taccggaagc 180
 tatggctttt gatatggttg aaaaagatcg tttgtcagag caaataacag cagcagatgt 240
 ggttcttatg ggaccgggct tggcagaaga tgacttggtc caaacaacct ttgatgtggt 300
 ttggcaggct atcgaaccaa aacagacttt gattattgat ggctctgcta taaatctatt 360
 agccaaaaga aaaccagcta tttggccaac caagcaaata atcctaacac cccatcaaaa 420
 agaatgggaa agattgtctg gactgactat tccagaacag atagaagcag caacacaaac 480
 agcactagct cattttccaa aagaaccat cctagtcgca 520

<210> 688
<211> 463
<212> DNA
<213> Streptococcus viridans

<400> 688
atcaggctgt tatgctctg attagacaaa aggatgaaca agttaagaaa ctgcaaagat 60
cagttatddd cagacagcct gaaagactct atgatgctta tgttcaaaaa ttggatcatt 120
taagaacaca tttgttgacc aagggtcggc aggtttatga tgtttatgat agcaaggaac 180
atgtgctgag acaaagattg ttgtccttta atttatcagg gtgtattcag cgctatcaag 240
cacaattaaa acaagatcag cgtttattgt taagccacat gagcagtcaa tatgatagta 300
aattagcccg ttttgaaaaa gcacaagatg cgcttttgtc actggatacg actcggattg 360
tggcgcgtgg ctatgctatt gttcaaaaag ataatcacat tattcaatca acccaacaga 420
tcaaaaaagg agatcgcttg catcttgaaa tgaaagatgg gca 463

<210> 689
<211> 360
<212> DNA
<213> Streptococcus viridans

<400> 689
aattgtgaac cagttagaaa ccggtgaaat tcctcttgaa gaagctatta ctcaattcca 60
aaaaggaaatg gcgctttcta aagatttgca gaaaaccttg gagtctgctg aaaagacctt 120
ggtcaaagtc atgcaggctg atggcagtga agcagaaatg gacgagttgt gaaagataag 180
attaaatcca ttaatcaggc tattaagcat tattatgcgc aaactcatgt gtctcaggat 240
ttgattgaag cggctttgta ttctgttgat gcaggcggta aacggattcg tcctctctta 300
ctattggaaa tcttgcaagg ctttggtttg gtacttacag aagctcacta tcagggtggca 360

<210> 690
<211> 463
<212> DNA
<213> Streptococcus viridans

<400> 690
gaagaaaagt gaacgattag aattaattaa aaaaattggt ttagaaaatg aaattgaaac 60
acaaaaagaa ttggtcaaac ttttagagaa cgaaggctta caagcaacgc aagcgacaat 120
ttcccgatgat attaatgagg tcggtatcat taaagtacca gttcaaata gtcgctatat 180
ttatggcctt tctaaggaaa taagcaaaaa agaagagtca acaccaaaac cagctgaaaa 240

agcagttaag tttatttcag atcaggtggc aggttttagag catctcattc atattgatgt 300
 tgttcctgga aatagctatt tattgaaacg ttttttacta gagagatttg aaggacttat 360
 ttttagcttg ctggcagatg atgacagttt gcttttgatt gttaaaaatg ctaaagatag 420
 tgatagaatt cgtcaagaaa tcaaattcttg gatggccaat taa 463

<210> 691
 <211> 412
 <212> DNA
 <213> Streptococcus viridans

<400> 691
 agatatgatt gcaacaattg aaaattttgc tcaagaacag gcagaatttc cggtttataa 60
 tatttttagga gaaatccata cctatggaga attaaaagct gattctgatt cgcttgcagc 120
 tcatcttgat cagttagatt taacagcaaa atcaccagta gttgtctttg gaggacagga 180
 atatgccatg ctggctagtt ttgttgctct gacaaaatca gggcatgcct atattcctat 240
 tgatcatcat tcagccttag aacgtattga ggctatttta gaggtagcag agccaagttt 300
 agttattgct gttgatgatt tccaattga caatcttcaa gtcccagtaa ttcagtatag 360
 tcaattagaa gagattttta aacaaaagct atcttatcaa atcaatcatg cg 412

<210> 692
 <211> 560
 <212> DNA
 <213> Streptococcus viridans

<400> 692
 gtgaaaagtc gcatcaaatac ttgacctgtg ttttctatat catttggcaa attttctgtg 60
 tctatagtta taaattttat agaaaatcac gggataataa gtggattttt tatcttcatg 120
 tcttcatgtc tatcttacct ttatcttttg taaagattac tctgcgatt tggacaaatc 180
 aacaatcttt atttggtttt ttgggtatat cctatcttac ctttcgttca gtaggtatga 240
 ttatggaaat gcgagacggg gttctcacgt catttacatt ttgggaattt atccgtttta 300
 tgctgtttat gccactttt tcaagtgggc ccattgatcg tttcagaaga tttaatgatg 360
 attatgagaa gattcctgat aaagatgaat tgctagatat gttggaacaa tctgttcact 420
 atatcatgct tgggtttttc tataagtttg ttttagcgca aatattggga acaatgattt 480
 taccgggttt gaaagaaatg gccttgcaaa aagggtggtg gttcaattgg ccgactttag 540
 gagtcatgta tgtttatggc 560

<210> 693
 <211> 250
 <212> DNA
 <213> Streptococcus viridans

<400> 693
 cagctgttgc agaagattta gccaaaattg caggtgttga cttgcaggaa tatggtttgg 60
 ctatgcttaa ggctggtacc aatttagcaa gtaaaacggc tgcacaactt gttgatattg 120
 atgctaaaac atttgaactt aatggtagtc aagtacgtgt agctcaagtc aatacggttg 180
 atatcaatga agttttggaa cgtcaaaatg aaattgaaga agccattaaa gcatcacaag 240
 cagctaattgg 250

<210> 694
 <211> 508
 <212> DNA
 <213> Streptococcus viridans

<400> 694
 ttctcttaaa tcaaacagga agtatagcgg atcgttatgc agctaaacgt ttattagaca 60
 ttaaaccgag ttcgaatttg caaggtatga taaaaaaat tgcggctggt aaaaccttaa 120
 atagctttga tagggcaagc ctgcgcctta ttaagagttt cttgaaaaaa gaagacgctt 180
 tattttggaag tctgaccttt agtgataatt atgaacgtcg tgtattgccg catgtcaaaa 240
 aattgccc aa gcaactttct tatggaacct taagtcaaat tgctagcaaa aatggtaaaa 300
 ggtaacaaa aacaaatcaa tttgaaatta atgatcattt ttataataaa cgtattaaaag 360
 gacaattgaa aagactcaaa ggcttccaaa agcaactgtc ttatttacag tctccagaat 420
 acaatgattt acagctggcg ttaactcaat tagcaaagtc aaagaccttt gtcataattg 480
 ttattccgcc ggtaaatgcc aaatgggt 508

<210> 695
 <211> 300
 <212> DNA
 <213> Streptococcus viridans

<400> 695
 aattgttctc ttattggctt tctttggttt tcaacaagggt gttgatgcgc aaagcaaata 60
 ccactatagt caagaactaa attactataa tggtaatgcc atggaacttc gtaatggttc 120
 taatgggtgg atgtttaact gtaattttgt ccctggaaat gtcggcttta ataacggctt 180

gatgagtctt aaaattgaca gtgatggctg tggcggctac actgggggcg aatggcgtag 240
taaagaacgc tttggctatg gtcttttcca agtaaacadg aaacctatta aaaatccagg 300

<210> 696
<211> 266
<212> DNA
<213> Streptococcus viridans

<400> 696
gtcttggcgc gagttttaaa ccaattcaat gttttcttga tgggtgtagct cgtgtttttg 60
gtactgacgg tcagttctcc atcttcaatg ctagcggcca caatgtctgg catcttaagg 120
acaatgcttc tatctgctaa agtcagtgtt aacagttcca tacctttctt ttctgtcgta 180
gctgtttcat ctattgtaga taagtgttgt attttcttaa ctttagccaa agctttatcc 240
acacgcccct gctcaaaagg cttcaa 266

<210> 697
<211> 400
<212> DNA
<213> Streptococcus viridans

<400> 697
cattggttcg atcagtcaga ccaacggcat caaaattagt atgctgctta atgatattac 60
acacttttagt agctgattgc tgactcagtc cctgtcttaa ataaggaagg gtttgctgcg 120
tcaaatactaa aacatcccga gtctgaacag ctctcagctg tctttcattg gataagtagg 180
tcttgagaat agctagaaat aaggtcgaac ctagactggt aagcaacatc ataggaatga 240
aaatcagttt aaccaaatac cagccagtaa agaaaccgac aaagagcatt tgaatacttt 300
cagcaataat gctgataaca atgacctgcg aagtagatgg ataaagggtta ttagttttta 360
attgatcacc cagtcgacca ctaatatatc ctaccaaagc 400

<210> 698
<211> 381
<212> DNA
<213> Streptococcus viridans

<400> 698
tgattaaagg agttaagttg gtgaattgac ctgaaaaaat tgtttcaagt cccttaaatt 60
tcgttacatt taagttgtca aattccaagg caattttaga ataattcggt ttaggcaata 120
aggtcttaat tttttccaaa ggattttcaa aatcaagata gccagtcacc gaaatatcta 180
atatactttt tgctcttaaa gcatcaagtt caggtaaaaa aagcagagtt tcttgatctg 240

caaagaggaa gaggaacata aggcgttcat gcggatcact ataaaaacct gttaaataat 300
 taatggagac aggatctgaa aggacagcag cttcaatacc ttgctttttg agtttttgaa 360
 caatctgtgc taattttgac a 381

<210> 699
 <211> 505
 <212> DNA
 <213> Streptococcus viridans

<400> 699
 agaaaaagt gactacgaaa aagtaacagg acttgtaaat tctacagaat cttttgggtc 60
 tgtagacgga cctggtatac gctttgttgt ttttatgcaa gggtgccaaa tgcgttgtca 120
 atattgccac aatcctgata cttgggcaat gaagaatgat agagcaacag aaaggactgc 180
 aggagatgtc tttaaagaag ctttacgttt taaagatttt tggggagata caggaggtat 240
 tactgtttct ggtggtgaag caacgctcca gatggatttt ttaattgccc tcttttcttt 300
 agcaaaagaa aagggaattc atacgacctt ggatacctgt gctctgactt ttagaaacac 360
 accaaaatat cttgaaaaat atgaaaagt aatggctgtc actgatttag tattgttaga 420
 tattaaagag attaatcctg accaacataa aattgtcact ggtcatagca ataaaactat 480
 tttagcttgt gcgcgttatt tatct 505

<210> 700
 <211> 407
 <212> DNA
 <213> Streptococcus viridans

<400> 700
 tgatgctgag tacaaggatt tatccaataa tctcagcgaa tcttactata ttttagaaga 60
 tgtagcaaaa cgtctagaga ctatactgga tcatatggat tttgatgcca atactttggt 120
 taaacttgaa gcacgtcttg atgttatcaa caccatcacg cgtaagtatg gtggttcagt 180
 tgatgatgtt ttggcttatt ttgacaatat cagtaaggaa tacaatcatt tgacggtaaa 240
 tgacctcgct tttgatgata tggaaaagaga actaaaagt ttggagcgct cactattaga 300
 agcagcagct caattgagtc aaaaacgcca tgccattgcg gaaaccttgt ctcaggagat 360
 taagcaggaa ctaaaagatc tctacatgga taaggctgat tttaaag 407

<210> 701
 <211> 250

<212> DNA
<213> Streptococcus viridans

<400> 701
cggcagacaa gtcagtcatt actcagcctg ctacaaccct gacagctatt aaaaagattt 60
tagagagatt agaaattggc ggtcgtttgg caattatggg atattatggg catgaggggtg 120
gcgataagga aaaatatgcg gttctgaact ttgttaaaga gctagatcaa cagcatttta 180
cagtcatgct ttatcaaccc ttaaatcaaa taaatacccc accctttttg gtgatgatag 240
agaaattata 250

<210> 702
<211> 213
<212> DNA
<213> Streptococcus viridans

<400> 702
gtgatattat ccaaaccatt ctcaatgaaa gattttcgcg gattcctggt tacgatgatg 60
ataaagataa gattattgga atcattcata ctaaaaattt attgaatgct gggttcaagg 120
aaggttttga tcacatcaat cttcgccgta ttttgcaaga gccgcttttt gtaccagaaa 180
ctattgttgt aaatgacctt ttgaccgctt taa 213

<210> 703
<211> 615
<212> DNA
<213> Streptococcus viridans

<400> 703
attggacttg tgtcagcttc gatttcaagc ctattttttg tgtccattgc gagcagtggg 60
atcgtatttg ctcaagaaaa tgcagctggt cactacaaat atgtgacgga tacagagcta 120
agtagtcaag agaaggactt gattgtaaag ggcattccta aaattacgga agatagtga 180
agcacctatt atctagtcta ccgtatggat gagaaaagctc agctgggtca gttgcccaat 240
acagggtggc agaatagcct tactagtgtt ttaactgggt gagtcctagc ttcgattggc 300
cttcttattt ttgtcgtatc gaaaaagaaa ggcaaaaaga aagcactggt gaaagtgtgc 360
ttgataacag gaatgggcag tggtttggct tcttcggttc atgctatcga aaatcaactt 420
ttgtccaat acaatcagga ataccaatta tctcaaggag atagtctgcc tttgccacgc 480
gccctgtcag gatataccta cctaggtat attagcaag acaaagagat taatcagcaa 540
gaaactgctg ctagggatca gaaatttgac tacacgggtc agcctcattt tcagaccaat 600

gaaggtagac aaagg

615

<210> 704

<211> 541

<212> DNA

<213> Streptococcus viridans

<400> 704

gaaggcaatg aggagactta ctatcttgtc tacaggttaa actcaaatgc tggatcaaaa 60

accttaccga atacaggcga cagtaacaat tccaatacta tgatgacggc tggtttggtta 120

acgacgatag gattggttgt ttttggtgtg tcgaaaagaa aggttaaaag caagttccta 180

ctgactgttt tgggtggggc tagtgtcggg ggaggtttga tactatccgt caatgcgctg 240

gaaaatggga tcttgctaca gtataatgcg gaatatcaag tgcggctgg ggaaagtctg 300

ccgtcaccaa gtgaaatttc aggctatacc tatgttggct acattaaaga agaatcgatt 360

cagaaattat tagacaataa gattcttaac aatcagcaaa atgctaattc agataaagaa 420

actttaaac aaaataagaa gctagattat tctctttctt ttgataagaa tgggctgaaa 480

aatcaaacgc ttggcgtcaa tacaattgag cctcaagatg aagtcttgtc tggccgagta 540

g 541

<210> 705

<211> 563

<212> DNA

<213> Streptococcus viridans

<400> 705

ttttattggg aggttttctt tattatatta ctaatcctat tgtcactttt ttagaaaacc 60

gttttaaaat taagcgtatt tgggggatca ctcttatctt tgctgtattg ctttccttgc 120

tggttttttc tattaccagt ctgattocca atttgattaa tcagctaaca gatcttattt 180

cagccagcca aaatatattat gtgggtttgc aggatttatt caatgaatgg aaaagcaatc 240

ctgcctttta aaatatattat atccctgttc ttttaaaaca gttcaattta tcttatgttg 300

atattttgac aaatgttttg gatagcgtga cagttagtgt ctcaagtatt gtttatatga 360

ttacaaatac ggtgatgatt ctggttctta caccggttat tcttttttat ctctcaagg 420

acaaagatgg tttaatgcc atgtagatc gtactatatt gaaaaatgat aggcataata 480

tcagtcaatt actgaatcaa atgaacaaaa ccatttctcg ttatattagt ggtgtagcta 540

ttgatgctgc cttcatattt gtt 563

<210> 706
<211> 500
<212> DNA
<213> *Proteus mirabilis*

<400> 706
tgaaaaagtt attattatct gcaattatta cttcagcaat ggccataatt gctacacctg 60
ccctagcaga agatactggt acaccagcac caacagaagt tacagttaat ggtggtacta 120
ttaactttga aggttctgtc gttaatgctg cttgtggtgt tgatagtagt tcaagtaacc 180
aaactgttcg tttgggtcaa ttccgtgtcg ctgaattcac taaaaaagggt gatgaaacag 240
gacgtattcc ttttagcatt aaattaaata actgcgatat tactgtttca tcattagcag 300
caattacctt taacggtaca gcttctgatg gtgatgcaac tgcattcgca ttacaaggca 360
gtggcgcagc aaccaatgta gcgttaaaaa ttaccgattc aagcagcaaa aatgttggtc 420
caggacaacc ttcttcaact caaaaattaa tcgaagggtga aaaccaatta aattataacg 480
cttctcttat ttccactgat 500

<210> 707
<211> 346
<212> DNA
<213> *Proteus mirabilis*

<400> 707
agatgaaaag cttgctaatag aaaatacact acaaattgcc atccagagtc ggataaagct 60
tttctaccgt cctagtggat tgtccgctta tactgaaaaa tatgccaatg aagtgacttt 120
ttcctataaa aatggggagt taattgcccc taatccaaca ccttatcata ttactatggt 180
caatttagct gcagccgaca gtcaacttcc ttcaagtatt atgattaacc cattttcaca 240
attaacatta ggaaaagtta atcagaatgc taataccatt tcattccaaa ccattaatga 300
ttatggcgca cagactcctg ttttaaaaaa agaaatcggt catata 346

<210> 708
<211> 563
<212> DNA
<213> *Proteus mirabilis*

<400> 708
tggctgactc tcctgatgcc gtcaccgatt taagttatit tgaagcaggc aaccgcatta 60
aaccgggtga ttatcttctt gatattgttt ttaatcatga gtatctgcgt agtgaaaata 120
ttcattttat tagtcaagat aaccatgtta ttcttgtgtt aaatcgagat tattatcaat 180

cactcgggat caatattaaa ctatttgctg attttgagaa attctcgga aatgaatgta 240
 ttgatattga aaaaatcatt ccagattctg ttgttaatta tgatattgag aaacaagctt 300
 taaatattca agtccctcaa gccgcgtag atttgaaagc acgcggttat attccaccag 360
 aaaaatggga taacggtata acagcaggta ttttaaacta cacctttagt ggcgctaata 420
 gctggggaaa ttctcataat aatagctact acttaaactc acgtagtggg atcaatattg 480
 gtgcttgccg attacgcgat tattccactt ggaattcgtc aaacgggaaa aaccaatgga 540
 accatatcaa tacctatctg caa 563

<210> 709
 <211> 527
 <212> DNA
 <213> *Proteus mirabilis*

<400> 709
 atggataata agcgaacaca gcgggatatt atatttagca taatatggat tatttgggtca 60
 tgtgcattaa tggctttttg gcgatataca atagctgggt agcttttgat cacccttacc 120
 ctaattttta gcattattat ttactctata actttgaggt taaaaaaaaac ggcaatgttt 180
 agtcgaaaaa cagaaacacc aaaagccgcg gagcctattg ctccagttat ggcagaagag 240
 aagaagccta tgccggagca aaaattgtat accattattg ctaaaggcac tgtatttcaa 300
 ggtgatatta acgttgatgg tgatattcaa atttggggta aaatttcagg gaatatcaat 360
 gtaaaagatg gcgtgatccg tgttatgcat gcaggccaag ttgaagggga attgacggcg 420
 ccagacatca ttattgatgg ttttgtaaaa ggtatttggt ccgcaaaca tcttgatatt 480
 ctagagcatg gtgaactacg tggcactagt cgttgtggca gtatgtc 527

<210> 710
 <211> 431
 <212> DNA
 <213> *Proteus mirabilis*

<400> 710
 ttatattgaa aactgaagc aacggctgga tgcgattaat caactcaggc tggaacgtgc 60
 atttgcatcg atgagtgatg tgtttaaaca ggtgtatggt ttaattcctg ttttactgca 120
 ttaccaccac cctcagttgc caggctatat tcaaggaaat gtccctcatg gtacatgttt 180
 ctttgaacct gatgacgtgc aacgtcaatg ggttaataag ctgactaatg catcatgtga 240
 tgagccaatg aatggataca ccagcggaga gttacctatt acgggtatct attcgatggg 300

aagtacttcc tcgattgggc aaagtcactg ctccgatatt gatatttggg tctgtcacca 360
atcttggtcg gaccaagatg agcgtgcgcg ttacaaacgt aaatgtttac tgatagaaca 420
atgggcagga g 431

<210> 711
<211> 528
<212> DNA
<213> *Proteus mirabilis*

<400> 711
cgctattaac cttgctgaac gtggtatgag tgtcactatc ttagaaaagg gtcagattgc 60
cggtagagcaa tcaggccgtg catacagcca aattattagt taccaaacaat cgccagaaat 120
cttcccatta caccattatg ggaaaatatt atggcgtggc atgaatgaga aaattggtgc 180
ggataccagt tatcgtactc aaggctcgtg agaagcgtg gcagatgaaa aagcattaga 240
taaagctcaa gcgtggatca aaacagctaa agaagcggca ggttttgata caccattaaa 300
tactcgcac attaaagggtg aagagctatc aaatcgctta gtcggtgctc aaacgccatg 360
gactgttgct gcatttgaag aagattcagg ctctgttgat cctgaaacag gcacacctgc 420
actcgtcgt tatgccaaac aaatcgggtg gaaaatttat accaactgtg cagtaagagg 480
tattgaaact gcgggtggta aaatctctga tgtggtgagt gagaaagg 528

<210> 712
<211> 409
<212> DNA
<213> *Proteus mirabilis*

<400> 712
ttgttgcaat acagccatca tgcttttaac ttgagagtta ataaatgtca catctgccag 60
atatttaacg ctattatcgg gtacgtacaa attactcgt tccatatcca tatcgaccgt 120
gttaccatcc atcgatgttt gatgaggaac ccgataaagc aaatcagcct ctaagcgata 180
accggctta ataggaatat gccgttctga tgtcattgtt agttgcaatc catgactacc 240
agtacgccg ttttccatgg ttttttcaa ctacgtgcg aaatcaatat cccgagcttg 300
gaagcctggc gtatcagcat tagcaatatt tgccgcaaaa atttcttggc gtttattacg 360
tagtgaaagc gcttcttgtt gaaaatgaaa cgtattttgt aatttatcg 409

<210> 713
<211> 513

<212> DNA
<213> *Proteus mirabilis*

<400> 713
aacttttagcc ccactactat cagtaatatt gactgtaagc gtatctattg gactaaagga 60
ttcaaaacca aaggcgctgg cgaagatatt ttcattatca ggatctggcg tatcagcaga 120
tcttaataac ggatctaatt tagtatcagg cgttttatct gtatcgatat ctgtatctgc 180
atcagatcca gcgttttcac cattattact cttatcaacg tagatatcat taccggcaat 240
catcaccata tgattaacca atgaggtcgc acgtaatgcc tgactttggg caatttggcc 300
aacaatagta ttgactgttt tatttagcgt ctctatccct tcaaccgtag aaatctgtgc 360
taactgtgac gttaactcat tattctgcat tggattggtg ggatcttggg tttgcatctg 420
cgtgataagc aacgtcagga aattaccttt aatatcatca ctccccctt ttttagtgtg 480
gtaggacgaa ggcgcttccc cgataatggg att 513

<210> 714
<211> 404
<212> DNA
<213> *Proteus mirabilis*

<400> 714
actccgccag accttagatc ttcagttatc acagctcaat accattgcgg gtattttacg 60
tgctgagcaa cagttattat gtgcaggaag tattgatatc aataagctgc atgaaataac 120
tgaacagaag aattttgtat taacagctct aggtcatacc gatcaaaaac gtcaaatact 180
cagtaaaciaa gttggtattg atagacccta tcaaggacag ctttttttag ctgatttatg 240
ggggcaactg gttgatctaa cggaagagtt aaaacatctt aatcaacata atggcttatt 300
gttagagcaa catattactc gcaatagtga aacgctgcat tttctacaga aaaatcatag 360
cccaacactt tatggtgcag atggacaagc acagcgttca atat 404

<210> 715
<211> 236
<212> DNA
<213> *Proteus mirabilis*

<400> 715
gcgattctat ggctgatgca ctaaaagagc taacattgcc tcaattgggt aagttggctg 60
aaacaaacca actaatctgt aatttcgggt ttgaagacag cgaaacaata gaacaactca 120
ctaaagaatc cagagtggat gatttgcaac aaattcatatc tggatatcctt ctttcttcta 180

acttggtccg tcaactatcg gaacatgata cctctgctac aaagaaacgg gcataa 236

<210> 716
<211> 633
<212> DNA
<213> *Proteus mirabilis*

<400> 716
tctaacttta attcctctgt tcctattaac aagtttttac cttcaatata aactttatca 60
tcatttaatt gtaatataac atgaccatgc ccctggattt taccaccaag agatatacta 120
tcacagcga caatatgaaa aacactatta tacgacaatg atatattggt tatttctagg 180
gttcctactc ttccatataa ataactatca tcaatattaa atgttctata taaaatcaac 240
gtatccgctt tcacaaatag aatactatct ttaacattaa atgatgattc attaatataa 300
gaagaatatt cataaaccat tacttttgat tgtttcgtcc catcatgagc tgttctatat 360
aaattatcat cttgatttat atctatgtgt cctgtgttaa ttaagccata agactcatga 420
tttagtgaca aagtatttat attaccatca ttataaacgt taccctcttt tgcttttatt 480
attaaatata gactatttat tctgcctcg gcatttaaatg aaaatagagc atttctatca 540
taatcatttt tagctccaag attaaactca cttaaccca tatcaaaacg aatatattca 600
gcatttaaat cacctttaat caagtctata tca 633

<210> 717
<211> 628
<212> DNA
<213> *Proteus mirabilis*

<400> 717
tctttactga gcttccatcc agccgatccg agttggtcac aaaccacgtg gaatgaacct 60
attcaaaact taggtggcaa tattggtgca tggcttgctg atatcctttt ttcagcattt 120
ggcttgctcg cttatgcaat ccctattgtg gtggtatttg gttgctggaa tgcattacgt 180
catcaaaaaa atcgtgaata cacagatttt ttctcccttg cattacgtac aattggtgcc 240
ttggctctgg ttcttacatc ttgtgctgta gctgatctta attttgatga tatctacaat 300
tttagctctg gtggggtgat tggtagctta ttagcaagg cattgctacc ttggtttaat 360
atgctaggtg caacactggc gctactatcg gtatgggcga taggctttac gctatttact 420
ggctggtcat ggctgacgat taccgaaaag attggtgcgg ttatcttagg tgcggttgct 480
tttattacta atcgtggtca aaaagatatt gattatgatg attatgaaga acccgccgat 540

cctgctcagg cagatcccgga ggcgttggtc gataacaaca cccagccaga acatcaactt 600
tctgcgcaaa tagagccaga tagtgatg 628

<210> 718
<211> 501
<212> DNA
<213> *Proteus mirabilis*

<400> 718
tattgagcgc attgatttac gcaccaaaaa aacagagtca gggaaagatt ttcttgccat 60
caaccctaaa gggcaagttc cggttcttca attagataat ggtgatattt taacggaggg 120
tggtgctatt gtgcagtatc ttgccgatct gaagccagat agaaatctta ttgccccacc 180
aaaagcatta gaacgttata atcaaattga gtggctaaac tttcttgcca gtgaagttca 240
taaaggctac agccctctat tttcatctga tacgcctgaa agttatctcc ctgtggtaaa 300
aaacaaacta aaaagtaaata ttgtttatat taatgatgta ctaagcaaac aaaaatgtgt 360
ttgtggatgat cactttactg tggcggatgc gtatctgttt acgttaagtc aatgggcacc 420
tcatgtggcg ctagatttaa ccgacttaag ccatttaca gactatctag cacgtattgc 480
acaacgtcct aatgtgcata g 501

<210> 719
<211> 301
<212> DNA
<213> *Proteus mirabilis*

<400> 719
tcatatcgct gtattacctt gatatacagc ggttaaaatc tctctagctc ctttatctag 60
tagctcttcg gcaagagaaa taccagcttg ctctgcatct tcaggtgata ctaagcggtc 120
gccacgtaaa atagttttac catcaggggc gccaaactaat gctcgtagcc aaattttgtc 180
gttttgccaa attgcataac taccaatagg tacttggcac cccccctcaa ggcgagtgtt 240
catcgcacgt tctgctttta cacaagttgc agtatctgcy tggtaaggc cggttaataa 300
g 301

<210> 720
<211> 507
<212> DNA
<213> *Proteus mirabilis*

<400> 720
agcgcaaaact cttcagatac ataataata aatagacgct gataacattc acattcatca 60

acaattgcac cgcgttgacg taatgttggt gcaagtagtt cgcgaccacc attgcctctt 120
 agtagtagta ctgccttggt ttctatttgt tgaagtgaag acaaggccag taggtcttca 180
 ctggtttctc caaattctgg ataacgtata gaatgtgctg ttaattgctg aaactcttct 240
 gcggtgcttt gacctattcc ataatagaat agcgtatctg gccacgattg ttgtaattga 300
 tttagttgcc agtttgcgta ccacaccgca tttttagaaa gtaaaaaaag gtaatcacc 360
 gtacttagct tatttaattt gttttcta atggaaagct ctttaccgc ggctatttct 420
 attaaagggt catgaaaagc atgctttccc gcatcaatta agcgttgctg aagttgttct 480
 cctgctgggc taggacgagt gattaaa 507

<210> 721
 <211> 402
 <212> DNA
 <213> *Proteus mirabilis*

<400> 721
 aatattggtc aagctgcaa aaatccggt ttttcaagta aaatgatccg atattatgag 60
 caaattgggt taatacctaa ggcaattcgt actgacggag gttatcgtga ttacaatgat 120
 agcgatgtag attgttttct ctttatcagc cattcacgtg ctcttggttt ttcaacagag 180
 caaatatcaa cattattagt tttatggaat aacagagaac ggacaagtgc tgatgtaaaa 240
 gctattgctc tttctcatat cgatgaatta aaccgtaaaa taacgcaatt gcaacgaatg 300
 acgcaaacat tatcgcatth agcacaagag tgccaagggtg ataataatcc tgattgcca 360
 attattgcta agctagtcga accccaaaca gggacagaac at 402

<210> 722
 <211> 300
 <212> DNA
 <213> *Proteus mirabilis*

<400> 722
 aaatagtggg ggtgtgttcc aagagcaacc tgactttaaa gagccaccac tttctattga 60
 aggtgcagcc gatcactgga accatcgtga agatgaagat tatttcagcc aacctcgtgc 120
 actgtatgag ctattaagcg atgacgagca tcaacgtatg tttgcgcgta ttgcgggcca 180
 attatcacia gcaagtaaag aaacacaaca acgccaatc gacttattta ccaaagttca 240
 tcctgaatat ggcgctggtg ttgaaaagc gattaaagtg ttagaaggga aagacgctaa 300

<210> 723
<211> 220
<212> DNA
<213> *Proteus mirabilis*

<400> 723
atgaaagcaa aaattgtact aggtgcggtta attctggctt caggcctatt agcaggttgt 60
tcttctagca acaacgcaca attagaccaa atctcttctg atgtaaaccg tttaaatacg 120
caagttcaac aactaagtag tgatgttcaa tcagctaacg ctcaagcaaa agccgcttat 180
gaagcagctc gtgctaataca gcgtctagat aaccaagtaa 220

<210> 724
<211> 521
<212> DNA
<213> *Proteus mirabilis*

<400> 724
tgcacttggt tacgagagat ttgatccct ccattcttta gctgttctgg taatagtaaa 60
caagcgatgg gacgttgaaa gcctgctaaa cgcgtatgat accattgtgg taattgatta 120
attgtctcaa tatcagtatc aacaacagca acgggacggt gaccaaattc aatatcgtca 180
atcgggacaa taaatgtttg gcgaacatta gggtgactat ttagcacctt ttcaatatct 240
tctggctgta taccttcacc cgcactaaaa aacagattat ctaatcgccc taaaatgcac 300
cattctctct ctttaaaaca acctctatcc cgtgttgcat accaagcacc ctgagtctgt 360
gataacggct ttaattgacc atcaaacc aaatcctaata caacactatc agatttgatc 420
tggaattcat tatccactaa tctgaccgct ttacccttta atggcgtagc aactcccgtc 480
ttaccatctg cgcgttttgc acaaacagta gaggccattt c 521

<210> 725
<211> 273
<212> DNA
<213> *Proteus mirabilis*

<400> 725
cagacaatgc gtttattttg tgttcactaa aagcggtagc catatcgtag ataaaagtga 60
gtcgtttttc tcgatcggtt agggatgatc taaatttcaa ttggttaggg ccatctaaac 120
ggaagatgct cgggttgctc tgcaataaac cgattaaata agtcgggtcg acattatatt 180
tttcacaaaa ctcaataaag ccaccttctg catgggcttc aatgcgagat atacctaaac 240
tcatggcgct taatcgaatc gccgcattac gta 273

<210> 726
 <211> 769
 <212> DNA
 <213> *Proteus mirabilis*

<400> 726
 aaacaataga tactttgcc a cttaactttc gtattttaat aaaattagcc cactccctc 60
 tgattagtgg cattattatg gcaataatct caacaatgct aagtttagca ccattatgga 120
 tcatctataa aatcagccag atttgttttt caacatcacc taatattcaa caaataaata 180
 atctagttta tatcactgtg attattttta ttttacgttg gggattaatg gcaataagtc 240
 atattgccgc acatcggggt gctttttata ttcagcatca attacaactc gcaatagcta 300
 aaaaaatcag taaagtacca ttatcathtt ttgctcaata tggcagtgga aatctgcgac 360
 gtattatcaa tgatgatata aaaagcttag aagggttttt cgcacatatg ctacctgatc 420
 tcgtctcagc catagtgact ccctttatcg ctattatatt acttttttat gtaaattggc 480
 ctcttgccct attatctcta accccattac ccattgcttt tatggctcaa cttctcatgt 540
 tgcgtcgagc caataaacia accaatgagt ggatgaatat tcagaaaaaa attgctaata 600
 aaataggaga atatattaaa ggaatcagag aaataaaagc gtttaactta acctccata 660
 cttttggtaa attatctcaa tctatcaatt cctctgttaa atggataaaa aataatgtca 720
 aagctagtac aggtctcttg atgggtattt gtgggatatt aacagcgaa 769

<210> 727
 <211> 516
 <212> DNA
 <213> *Proteus mirabilis*

<400> 727
 cttgccgtag ttgaaggctt ttttgctact attccatata ttctactcta tttttatta 60
 attgatcttt ttgccaataa aatcacacta gtcagttat tttattactt tttatcaata 120
 ctcttatcta ttgttctgag tattgtcatt ggtacttata gtatgccaat gatttttatt 180
 ggtgcttata aaatgatggg acaagcccggt ctaagaatag ccgatcattt acgaaaaatc 240
 ccgattggct gggtttcttc tcaacgcagt ggtgatcttg catcacggct tactgtgat 300
 ttagagatca ttcaaaatat ctggtcacat ttcttaggaa tgtttatcag tacttttagcg 360
 atgcctgttt ttctctcaat attcttagta tgggtagatt ggcaactcac ttttaattata 420
 ttattttcta ttccaatcgc tctgttcgca ttatccataa gccataaaat aatgttaaaa 480

gctgcacaac aggcagctga tgctaatagcc aatgta

516

<210> 728

<211> 673

<212> DNA

<213> *Proteus mirabilis*

<400> 728

ttaagtaaag ctaaattccag aatgcacatc ttaaataacg atgaaatttc atcgttattc 60

gactaccctt ttataaaaca acgaaatatt tttttgctat caagagtcac gttacgcgat 120

attttatcat tttattttaa aatttcacca gaagatgtaa gattttcaaa aaatgagtac 180

gggaaacat ttatttttaa cgaatcaaag gaaagcattt acttcaattt atcacattca 240

aataattgtg ttgctctcgc tatttcaaat acatcatccg ttggtattga tattgaatat 300

ttcaaccgtg atatagaaat aaatagcatt atagattatt atttctcaaa aaaagaaaaa 360

aaatacctat cttattttga cgagactcaa aaaaaacata atttctataa gatgtggaca 420

ttaaaagaag cctatattaa atcaagaggc attggattat cagaagaaat cattaagaat 480

ttagattttt atataaagag agatcaattt gataaatatt attttataga acagcattac 540

tctgctcatc tttcatatat taccaaatca atattagata gctataaaat atccataatc 600

acatatcacc atccatttaa ctataaattc ttaacatggg gtgatataaa aagcaacctg 660

ccacatcatt tat 673

<210> 729

<211> 682

<212> DNA

<213> *Proteus mirabilis*

<400> 729

attattctcg ccagtgtttc gacagaaaac gatcactttg atcaagagtt acctagtgc 60

accaagatac aacaaagtgc acactaccaa tggcaattaa caccttgtgt ggaacaagat 120

cttatcaagc caacattaat atttaacat caacaaacat tgccttctga aatcacagct 180

attttatccg ctattggatg tctttctgaa cagggcgaaa atcaattaat cgttgccaac 240

cttgagatc cttaattat cgccgagcag atccgcaaaa tattactgtc atcgtctgat 300

gggtttgttg ttatcacgca acaagcctgg gcattaactg ccatagaaac ggtaaatcca 360

gcacaacgta gtattcgaag tttattaaaa actattcaaa aagaatatag ctcaagggtta 420

attgccattg ttgatttagg tataaatgcc tcatggctgt aattagttcc tgcttttata 480

caaatagaac aaggtaataa tgaaattatt gttcgttaacc attgctgcta cttaccacaa 540
 ttaacccac tgccctcatc ttctacgac atagcgcaga acatcatggt atccccgcgc 600
 tggcatatta ttactgggtgg ttttgaggc ttaggtcgaa ttacagcaag ttggttagta 660
 aggcaagggtg ctaaactgtat cg 682

<210> 730
 <211> 609
 <212> DNA
 <213> *Proteus mirabilis*

<400> 730
 aatgtaaata aagacaatgc taacctattg gtttgcccat ttgctggtgc cagtaatagt 60
 gcatttaact cgtggagatc taccgatatt tcagggttaa attgtcaatt agttaattac 120
 tctggccatg gttgcagatt taaagaacca gcctttaatg atattgggtt attagccaat 180
 gaattaataa caataataaa gaaattttat ccaccacggc ataattcatt attactttgc 240
 ggtcacagta tgggggcca agttgccttt gaaactgcta ttcaattaga aaaaaatggc 300
 tgggaattat ctggactaat attatcaggc tgccaagctc ctcatttca agcaaggaga 360
 ttactgagtg atttaaatga tgatgacttt attcaacaat taattgccat tgggtgatgt 420
 gatgctgaat taatcaagca gccacagttg ttaaacagc ttatgccatt attacgtgct 480
 gatttccttg ctaccgagcg ttattttttt caaaaaagca ctaaactggt ttttcatacc 540
 cctgttttat taatgtatgg tagtcatgat agtgaagctg ataaaaacga agttgaagca 600
 tggcaagat 609

<210> 731
 <211> 609
 <212> DNA
 <213> *Proteus mirabilis*

<400> 731
 taaagcattc ggtattccac tttttactcg atttgatcaa ctacctgaaa aaatagatct 60
 agcttgatatt gttgtgcgat cagccattgt tgggtggcgaa ggtagccaac ttgcgcaagc 120
 atttttacaa cgggggatct cgggtgtaca ggaacatcct gtacatcctg atgaaattac 180
 cagactacaa tcattagcag aaaaaatgca ttgccactat atcgtaaca gcctctatcc 240
 acataataaa gcaggacgtt tatggataga aaacacacag aagatatatc agcaaataca 300
 acaacgacca gtgtggggac aaattatcac aagcaggcaa ttaatttatt ccgccttaga 360

tatatattgc caagcaatga aattacaccc taatgatatt acagtcacat tagaaaaaga 420
 taataccccg ctacaatttc tacgactatc caaccctact ggtgatttgc ttttatgcct 480
 acaaaaaacat ttgtcatcta acgatcctga tcagcatagc ctcgtgatgc atcatatgat 540
 attaggctgg ccagctgggt atttaactct cgctggaagt tatgggccag tagaatggaa 600
 taatgcgct 609

<210> 732
 <211> 502
 <212> DNA
 <213> *Proteus mirabilis*

<400> 732
 aattggctac tcctcgatta cgtttacgag aatggcgtga aagtataaa gcgccatttt 60
 ttttacatat taacgcctcc gcatcggatg tgcgttatcc cccttcacca cttactcgtg 120
 cagaaagcga tgcaatgggt gatacattgc gtgataaatt tattcagcaa aatgggtggg 180
 gattttgggc cgttgaatta aaagagactc aagagcttat tggctttggt ggattaaata 240
 ttccctaatgc ccctttgcct ttttaaccgt gtgttgaaat aggttggcgt attgcacaat 300
 ctcatctggc caaagggtac acttatgagg cggctttaac agtattaaaa tatgcttttg 360
 aacagttgaa actggaagaa gtcgtggcat ttaccgcagt gactaattta ccctcagaag 420
 ggggtgatga aaaactcggg atgaagaagt ctgaatatat tatgcatcca tctctagata 480
 aaacacaccc ttttagcaca ca 502

<210> 733
 <211> 511
 <212> DNA
 <213> *Proteus mirabilis*

<400> 733
 tgcggcttta gtatttggtt ttaattctgt tgctacagct gaaaatgaaa cgcctgcacc 60
 aaaagtaagt tcaactaaag gcgaaattca attaaaagg gaaattgtta attcagcatg 120
 tggattagca gcatcttcaa gcctgtaat tgttgatttc agtgaaattc caacttctgc 180
 attagcaaatt ctgcaaaaag caggaaatat caaaaaagat attgaattac aagactgtga 240
 tacaactgta gcgaaaactg ccacagttag ctatacacca agtggtgtta acgctgtaaa 300
 taaagattta gcctcttttg tttctggtaa cgcctctggc gcaggatttg gcttaattga 360
 tgcaggtagt aaagcagttt aatggaatac tgcaactaca ccagtacaat taattaacgg 420

tgtatctaaa atccattcg ttgcttatgt tcaagctgaa tcagctgacg ctaaagtaac 480
gccaggtgaa ttccaagccg ttatcaactt c 511

<210> 734
<211> 726
<212> DNA
<213> *Proteus mirabilis*

<400> 734
tttctcacia gcagagcagg acgattctgt ggaatttaac attcatatgc tagacgcgga 60
agatcgcgat aatgtcgacc ttccacgttt ttctacctca aattatatca ttccgggtat 120
gtactattta gatattcgtc taaatggctg cgactttcct cgccaaaata ttaattatat 180
tgaagtagca gataatcatt ccgtggcttg tatcgacct actcttttaa aaaagttaac 240
aatcaaccaa gaaaaccaa aatatatcaa acaaatatca ccagattggt ttgatattag 300
ccaattaccc ggtatctcga ttaaaaatga tgggtggtga cttgatatca cgttaccgag 360
ctcattaatg aaatatgaag aatctgattg gacacctccg gagctttggg atagcggggg 420
ctctgggctt atttttgatt atacactaac aggaacgtca actcgcccta ataaaggcaa 480
taataacaat acgttaactg gttatggtca agcgggatta aacttgggtg aatggcggtt 540
acgagctgaa tatcaaggca attattcttc tgaatattca tctaacaatc gttttgattg 600
gaaccaaat tatgcctata agccattacc tgatctcgca gctaaattaa cggttgggga 660
aacttattta aactctcaa tttttgatag tttccgtttt acaggagcca atttacaag 720
cgatga 726

<210> 735
<211> 568
<212> DNA
<213> *Proteus mirabilis*

<400> 735
atgccgtatt agatcacacc acctttccta ataacaaagc gggagaatta gcaacagtaa 60
acttttcgtt gcctgatcgc tatgatggca cggtatattg tcctaactca cgtatttatg 120
atcgtgcatt aacctatttt aaagcaacca ctgatttacc tcctgttggt aataactttt 180
atcaattaaa tgagtatgtt gatatcaaaa ttaattttga aatttggggg cctaactcct 240
taccacagc gcccttttct gacataccta ataatagaaa taaccaacaa ggttgacagag 300
taccctcttc acctaaaccg catatttctc caggaagtag cggccaactc actttccgtt 360

taagaaaacc cattattaat ggtgtcagtc ttaatgggca atctcttgca caaatgtatg	420
ccatggtaag tcacagcggg gcgcaaaaaa cctatgggtc agagcccatt tctaaattag	480
tgatcacctc ggggatcatt accactaaag ataaatgtat ttttaataat gggtcaccaa	540
ttacctttga ctttggtaat gtgggaaa	568

<210> 736
 <211> 544
 <212> DNA
 <213> *Proteus mirabilis*

<400> 736	
aacaggcaca ttaacagagg gtaaacctca agtcactgat gtcatagcta atgtaggctt	60
taatgagaaa gagctactga tgttggcttc ttctgtagaa gttggctctc atcaccctct	120
tgcaaaagcc attattaata aagcacaaga gcaacaaatt gatgttgtgg aagccgataa	180
tcgcaaggct ttagcgggta aaggtattga aggttattta aataatcagc atattctggg	240
cagtgcocca acacaattat cagaaacat accattatct gcacaatggc aacaacaagt	300
cgctcgtctt gaagatgaag gcaaaaccgt tgtgggtgta ttaaaagaag atcagttcat	360
tggtgtgatt gcgatgcaag atacattgag caacgatgct atcgaatcaa tgaaagagaa	420
gaaagtgttg aaatcgatga atatcaatgc cgtgatgtta accggtgata acccaagagc	480
agcggctgag attgcacaaa aactgggtat ggatttccgt gcaggattgc tccctgaaga	540
taaa	544

<210> 737
 <211> 641
 <212> DNA
 <213> *Proteus mirabilis*

<400> 737	
gcacactgac ccaattaaag ccaaatacat taactcgctt atatgctctg tttcttctgt	60
ttatggccat atcccttttt ctatatgctt atagctatct tgatacttgg ctagaaagta	120
aaaaaaatgc cattaacaac acgactaata agtttgcac tcaagttgaa gattaccgct	180
atcacgctaa ccaactattc cagttatcaa acaaaattaa tgatccaacc ctctttctgc	240
ctttaaaaaat caatccggtc aaactacgct ctgatgttta ttggcttgaa ggacgcgac	300
agaccgttga tgctattgtt tttggtaaat cgaatgaaca aacctttcag ttagccgggt	360
attttgcaaa cgcgtagaa attatttggg gggtagctaa taactatagc tctctctatt	420

atcttaatgg taaaggcaat gatcttatcc ttattactac ccactcaata ctaaaaccag 480
aattgcggtta taaagaaagc tatttaacac taacggctga aaacaaacgt tctgagctat 540
taatgcaatc aacggcatta gatgaaaaag agagcctttc tcccattagg aaaatgccga 600
cagaaaacat ttattactat acctatcgca ccatgtttta t 641

<210> 738
<211> 699
<212> DNA
<213> *Proteus mirabilis*

<400> 738
tggcttgga acacaatcat tcattccgc atcaatacaa cgttggtttt ctcggcaat 60
cgcatgtgct gtaacgcaa taataggaat agtgctactc aattcacgca ctgttgctgc 120
taattgatag ccattcatat ttggcatatt gacatcgggt aaaataatat cgacatgatt 180
ttcttgcata aaggctaaag catcacagcc atctctgcg gttgcggtat taaaaccaat 240
ttttttcagt tgatcgggtca acaataaacg attgataggg tgatcatcaa caatgagcac 300
cgtcaataat tgtagatcgt gatctgtcat taacgcgtta tttctgagt catcagactc 360
taattttgtt tgtggttaatt gtaggataat cttaattaat tcatttaatt tatatgtact 420
gcataaccaa ttattttcag agattttctt tgctggctca aaatagtgtt cataaatacg 480
gataaattgg caagagttat ctaaacattc atcatgatcg gtgataataa aatcattctc 540
agatacctga gtcacttccg tgaataattg acaatgtaag cccacataac ttagatatcg 600
ttcaacaaag ctttctagat agagattttt aatctgata aagcagcgaa tagtactctc 660
tttatagaga ttatatttgg tttgtccatc actcgaatt 699

<210> 739
<211> 341
<212> DNA
<213> *Proteus mirabilis*

<400> 739
cgagcatgac actaataatg gctttactgt cttggatgct gcacaagtta atgatcgtgg 60
tgttgatgat ttagtcgcgc aaattaaaga gattgtgggt tcacttcctg tttatttgac 120
ttttgatatt gattgccttg atcccgcat tgcaccgggt acaggaacac cggttggtggg 180
gggattaacc acggataagg cgctgaaaat gctgcgtgct ttacagccgt taaatattgt 240
aggcatggac ttagtgtgaag tatcgccagc gtatgatcaa tcagatatta ccgcccttgc 300

cgagagcaacc attgcacttg atatgctata tctgcaagcg g 341

<210> 740
<211> 323
<212> DNA
<213> *Proteus mirabilis*

<400> 740
tacgtacatc gccaccagcg aaaactgcat attgccatta atacttttgc tcatcctgat 60
ggatttgaac gctggcaaaa agccattgat atggcggtc atttagggtgc cgatgcatta 120
attttgccg atattgctat gctagagtac gcagctgaac gctatccaca gatagagcgt 180
catgtatcgg tacaggcgtc ggccactaat actcaggcaa tcgcatttta tcaacgcaat 240
tttgatgttg cacgtattgt actaccacgc gttctttcta ttcatacaagt caaacaattg 300
gctcaaagta gtctgttcc ttt 323

<210> 741
<211> 360
<212> DNA
<213> *Proteus mirabilis*

<400> 741
gaaatagca ttaggtcttg tactttatta ttggcaaaaa gaaacacttg agacatttta 60
tcggcaagca aaacagagcg atgctgatat tatctactta ggcgaaacag tctgtagtaa 120
gcgcgtgag actaaaccac aagattggat taatctggcc aaagaagtgg ctaaaagtgg 180
taaacaagtg atcctttcta ccttagcact actacaagcg ccttctgaac taaaagagat 240
agcaaagctg gtggataacg gtgaattttt agttgaggct catgattttg gtgtgatcaa 300
tatgctttat gagcgtcatt taccttttgt agtaggcat ggattaaact gctataacgc 360

<210> 742
<211> 516
<212> DNA
<213> *Proteus mirabilis*

<400> 742
caaggtttcg ctaactaaag agaaaccggc aattagctta actaaaaagg atgatttcgg 60
caaaatccgc attaacctcg attggcatcg agaaagtaaa agcggtggtt ccgggttatt 120
agggtgatta tttggtggtg acaaaggat tgatttagat attggcgctt ttgttgaact 180
acaagatggt tataagtcag tgatccaagc cttaggaaat ggattcgggtg attttaatcg 240
catgccttat gttgagttac aagggtgatga tcgcaactgg gatgtagcgg gtggcgagtg 300

gattttttatc aatggacgtg aatggaaaaa tatcaagcaa gtgcttattt ttacttttat 360
 ttatgaaggg gttcctaact ggagtaaaac agatgggtgtg gtcactattc atgttcccga 420
 gcaaccacct atcgaaacac gtttaacgga tggttaataat ggtcgagcta tgtgtgccat 480
 tgcacgactt attaataaaa acggatcaat caaagt 516

<210> 743
 <211> 516
 <212> DNA
 <213> *Proteus mirabilis*

<400> 743
 ttctaaaggt ggtaatgttt ctttaagcaa agcagcccca acgatgaaaa acgtcctagt 60
 cggacttggt tgggatgccc gttctacaga tggatcaagat tttgacttag atgcatctgc 120
 atttctgtta gccgctaata gaaaagtacg tagcgatgcc gatttcattt tttataacaa 180
 cttaagatct tccgacggct ctgttggttca cactgggtgat aaccgaacag gtgaagggtga 240
 tgggtgatgat gaagcactaa aaatcaaact agataccatc ccagttatg tcgaaaaaat 300
 tatctttgta gtgactatcc atgaagcgca accgcgtcgt caaagctttg gtcaggatc 360
 tgggtgcgttt attcgttttag ttaatgatga caaccaaatt gaagttgctc gttatgattt 420
 aacggaagat gcatcaacgg aaacggcgat gttatgttgg gagttatatc gtcataacgg 480
 tgagtggaaa ttccgtgctg taggccaagg atatgc 516

<210> 744
 <211> 500
 <212> DNA
 <213> *Proteus mirabilis*

<400> 744
 gagccttggt tatccctctt tcattccctt tactcgctt atcttgctac tgttgggcag 60
 gaaatgggtct ggtggataga acatggacag cttcaggaat ggatagctat agttatcgcc 120
 aagcgctaag acagccaacg gttggctcac gttatactct ttttaatat acacccgata 180
 tgccaacgcc aggtggcacg agtcctgttg gtactaaagg aattcgctat attgcgatga 240
 aatatggccc ttatggacaa cctgaacact ataaaaaccta ccaagtgatg ttctctcact 300
 attccaccac cactacacgt aaagttcggt atttaggtga gttatatacc gttgtcgggtg 360
 atatttatatt aatcgatcct gctgctacca ccaatgaatg gcaacgcggt cgtagccaaa 420
 tagttgaaga gtattatgag attttagata cacatggaaa taggacaggc aaaggattgc 480

gttttaaccg ctgggataga 500

<210> 745
<211> 550
<212> DNA
<213> *Proteus mirabilis*

<400> 745
gctcatatca tcttccatcc ctgcgcaaac cgacttaccg taaactaaca caagatgatt 60
atggggtaat tagtgactat ttgtcctatt ttggcacctc taagttttct gctgggtatt 120
cgttacaaaa ctttcctgaa ataccacta aagggtgaagt cgttacgaca ctgcgtaata 180
ttgttaatcg gtttgcgga tcatcagagg ggatcaatca ttggcgctat tacattgatg 240
cggtagagat ccatattcct ccattactgg tgccttatct gcaacaagaa aatgtcctcg 300
atgtcgtttg tactccttct atccccattg tcattgggtg gaatggccat tttcttaaag 360
atgaaaaatc acatttttct gcgttaagtt taaaacaact ttctgaaccc atactgtcaa 420
atggcacttc cactatccag aaaaatgaag gtgatgcggc gcatttatta catattcgcc 480
aagaaaccaa cgaagagtat cggttacacc attcttcagg tttttggaat ggttcgttaa 540
tttgcttagg 550

<210> 746
<211> 401
<212> DNA
<213> *Proteus mirabilis*

<400> 746
aagataggta cgcttttaat ttcttacagt ttactcacia tgagtttgat ctctttttcc 60
tcctttgctc aagtaaatca cgatcccctg accaaatgtt atgagttgtc aacagatgca 120
agccaaacaa ccattaaatc ttgtctatta gatgaactga gattatctga agagcagttg 180
aatgttatct ataataaaag caaaggcgac ctggaagata gtgactctat cgcggtctaa 240
agtgtattg atgcattagt cagttcacia gagcagttta ttcttttttag aagtagtgaa 300
tgccaacgtc aatctgcttt aatgatgggg ggcaatgggt ctgatgaagt actgctggct 360
tgtgaaataa aattaaatca atggcgagct aaattattac t 401

<210> 747
<211> 513
<212> DNA
<213> *Proteus mirabilis*

<400> 747
 tcacagtcac cactaatctc acgttgatta ttcctaaata tagtcaagtt tcttgatg 60
 tgacaaattht tttcccgacc aaaccgattg aattacatac cttagtactg tctgaaactg 120
 aattacaatc tgtgtttctt ttactcaaac cattaataaa atcaggggag ccgattactc 180
 gtcattcttc agattatcat ctatcaacac ctgaggtggt taaaactaat tttacgttac 240
 ttcagcaatg tctaccgctt gaacatggca cccctctca agagaccctg tttatgcaac 300
 agagcctctt ttttattttg ctggcggttt atcacgaagg ggtcgatatt cttaatattt 360
 ttcgttttta ttatgatgag ccaaaaaatc aggcgatcac tcatctaata acacaagatc 420
 cgcaacgtaa atggcattta gaggatgtag caaaaacgct ctatactaca ccatcaacat 480
 tacgtcgcca ttttaagtaa gagggcggtt cgt 513

<210> 748
 <211> 583
 <212> DNA
 <213> *Proteus mirabilis*

<400> 748
 acgtccctga aacactctca ttagccattg atagcttctt aagttatatc gaagttgaac 60
 ggcgattaag tccgtaacg gtagaaaatt accagcgaca attaatgacc attgcacaaa 120
 tgatggttgc aataaaaaatc aaccaatggt cgttactgga aagccaacat gtgcgcatgt 180
 tattggctaa aagccatgc agtggattac aacctgcaag tttagcattg cgcttttcag 240
 cattgcgtag cttccttgat tggcaagttt ctcaaggaat gttagcagta aaccccgcca 300
 aaggggttcg aacacccaaa tcaggtcgtc acttgccata aaatatggat gttgatgaag 360
 tcagccagtt gatgaatatc gacttaaaag atccctctc tgtaagggat agaacgatgc 420
 tggaagtgat gtatggcgct ggattacgtt tatctgaact gactaactta aatatcaatg 480
 atattgatct ccaagaaggc gaagtccgag tattaggtaa aggcagtaaa gagcgtaaag 540
 ttcccttggg aagaaaagct gtagagtggg tacagcattg gtt 583

<210> 749
 <211> 193
 <212> DNA
 <213> *Proteus mirabilis*

<400> 749
 caggaaacggg tttcttatca tcaataagat gtctaattgc taaataggga tgataaatta 60

gcattcgagg cccagcccaa cgcattgactt gtttcattgc tgctcttttt actggctgat 120
 agcagtgaat tgggcattgt ttgcaggcgg gtttttcctc accatagcga catttatcta 180
 gtctttttata agc 193

<210> 750
 <211> 520
 <212> DNA
 <213> *Proteus mirabilis*

<400> 750
 atcactttcta tccaaaacga agtgaagaac gtttttagacg aaatcaaccg tattttctgaa 60
 caaactcagt ttaacggcgt taaagtactg agcggtgaga aatcagaaat ggttatccaa 120
 gttggtacta acgataatga aactatcaaa tttaacttag ataaagttga taacgataca 180
 ttaggtgttg ctagcgataa actgtttgat accaaaacag agaaaaaagg tgttacagca 240
 gcagggtcgg gtgttactga tgctaaaaaa atcaatgcag ctgcgacact ggatatgatg 300
 gtatcactgg taaaagaatt taatcttgat ggtaaaccag taactgataa atttattggt 360
 actaaaggty gtaaagacta ttagcaact aaaagtgatt ttgaattaga tgctacagg 420
 actaaacttg gattaaaagc atctgccact acagaattta aagttgatgc aggtaaagac 480
 gttaaaactt taaacgttaa agatgacgct ttagcaactt 520

<210> 751
 <211> 515
 <212> DNA
 <213> *Proteus mirabilis*

<400> 751
 caacagtgat ttccatttga gaatctgtac cttcttttacg agaagtcaga actaaatggt 60
 taacgccatc ttgggctttt acaatagtgg cagaaacggt gccttctttt ttattgatag 120
 catcacgtaa ttcaataata gaagtttggc tgtctgttaa ctctattttt aaaggctctt 180
 tttcaccttt ttgggtgatc actaaagtcc gtgttttgcc ttcacctaata gtttcaccaa 240
 taggatcttt gatatactg acggcttttg atttcagtggt ttgagcatgg gcaagctctg 300
 ttacagagac cgtataatta ccaatgcttg ctttaccatc agtggttact ttaaaggcat 360
 caaactcatc atcaactttg gtggcgacga ttttatcgaa tttttttaat tcttcagatg 420
 ctttctgtaa tttatctaata tggctacgaa tttttccata tgcagtaatt tgtgcatcgt 480
 agcttttcat ctgtttgtct aaaggttcaa ggcgt 515

<210> 752
 <211> 274
 <212> DNA
 <213> *Proteus mirabilis*

<400> 752
 acacaatcca ttcatcagtt agagcaggat ctaggacgac caccatcaga acaggaagtt 60
 gctgatcatt tgcagattga gtttagcagaa taccggcaga tcctattgga taaaaataac 120
 agccagttgt tctcttatga cgaatggcat gaaatttacg gtgaaagctg tgaaccgtct 180
 caagacgaag atcacgatga caatccttta caaatgttat tggaaagtga tatacgccaa 240
 agagtcatag acgcgataga attgcttccc gaaa 274

<210> 753
 <211> 657
 <212> DNA
 <213> *Proteus mirabilis*

<400> 753
 gacttaattg ctctcgtat tgatagtaga gggaaaatca ctgctgctga aatttcagcc 60
 ttactggac aaaacacctt ctcaaacat ttgatattc tctcttcaca aaaaccggt 120
 tcagcattag atagctatct ctttggtagt atgcaatcgg gtcgtatccg cattattaat 180
 acggctgaag gtagtggagt taaattagca ggtaaattta ccgcagataa cgacctagt 240
 gttaaagccg ataataattca aacagatagt caagtcggtt atgacagtta cgataaagat 300
 ggcagtgaag attacaaaaa ctatcgtggc gggatcacgg ttaataatag tggctctagt 360
 caaacactca ctaaaaccga attaaaaggt aaaaacatca cattagtagc gagtagccat 420
 aatcaaatca aagcctctga ttaaatgggg gatgacatca cgttacaagg tgctgattta 480
 actatcgatg gtaaacagct acagcaaaaa gagaccgata ttgataatcg ctggttctac 540
 tcgtggaaat acgatgtgac taaagagaaa gaacaaatac agcaaattgg tagccaaatt 600
 gatgctaaaa ataatgcgac attaacgcga actaaaggag atgttacctt agacgcg 657

<210> 754
 <211> 622
 <212> DNA
 <213> *Proteus mirabilis*

<400> 754
 attaagcgca aatgaaacag gaaatttagg ctcaatcagt gaatcaaggc gtgcattgca 60
 agatagccaa cgtgaaatta atcaattaat agaacaaaat cgctatcagc aactgcaaga 120

aaaagcggta aatatttcac ctacccaac ttttaattact gagtcagaac actgtttgcc 180
 tataaaaggc gtttatattc aagggtattac ttacttact gagaaggatc tcaattcatt 240
 atctccgta cctgatcaat gtattaagag tgctgatatt aatcgctcg taaaagaact 300
 cacacagcgt tatcttcaac atggttatat taccgcacgt atccaatttt tacgtcctaa 360
 ccaacatggc gaattaggtc tgtatgctat tgaagggttt gttgaacgta ttgaagggg 420
 tgatcgaggt gttaacacca cactactatt tcctcgaac aaagggaac cattaaaact 480
 cgctacactc gatcaaggct tagatcaagc taaccgtttg caatcaaata aagtcacagt 540
 ggatattctt cccggtaccg aattgggggg ctctgtcatt aagttgtcta atcaacgaaa 600
 atcaccttgg catctcaata tc 622

<210> 755
 <211> 450
 <212> DNA
 <213> *Proteus mirabilis*

<400> 755
 aaaaatgtag tgtttcagat ttagcatta ttaagagata gtattttagt taaaagtgat 60
 cgctgttcaa tgcttaattc cattgaagcc agagctcaa ttctggatta taggataatt 120
 gaatttgcatt ttaatgaggt tcctgataat tttaaaatta gaaatggaat gaaaaaattc 180
 ctattgaaag atatatcaaa aaaaatatta cctaagagt ttgattttca gaggaatta 240
 ggatttaatc taccactagg tatgatgatc agagagggaa aatggaagga atttttcggt 300
 gatataatca attcaaaatc tgatataatt aattattatt ttataactaa aatgtttgat 360
 gagcatttaa gtggtaaaga gcgtgcagat cgtctatttg gcgtagtttt atttctaatac 420
 tgggcaaaac ataataaagt atcgctatga 450

<210> 756
 <211> 400
 <212> DNA
 <213> *Proteus mirabilis*

<400> 756
 taaattagct ttagttcttg gtttaggttt atctgttggt gcgggttctg ctttagctgc 60
 agatcaaggc catggtactg ttaaatgtgt tggttcaatc attgatgctc ctgctcaat 120
 tactcctgat actgaaaatc aaacagttcc actagggtcaa atttctactg ctgcattaaa 180
 agatggtggc cgtagtaatt ctctgactt taaaatctct ttagaaaatt gtactacaga 240

gacttacaaa actgttcaaa caactttcac tggctctgaa gcaactgaag ttttagaagg 300
 ttcttttaggc attgaaggta tcgctaaaaa tgcagctggt gttatcaccg atgcgggtgg 360
 taaacaaatc aaattaggca cccaagtgc tgctcaaac 400

<210> 757
 <211> 500
 <212> DNA
 <213> *Proteus mirabilis*

<400> 757
 tggcaccact attgctatgc cttgttgcca gtttagtgac tgcgccaacg atagccagtg 60
 atgtaaaaca agataaaaac atgcatcagc gatttgggtg gctcaatcta caaggaacca 120
 tattagagcc gtcattgtgca atatcagcgg gaagtagtga tcaagtgatc ccgctaacga 180
 cggatatctat cccaacgtta gtactgaag gtcaaggacc gattgaatat ttttctatca 240
 gattaacgga ctgtacgcta attagccaga aagggaaga agcggataat ccacgtttta 300
 tcgcaacgtt cgatggtcct tctaattgaa atggcaactt tgagttatcc ggtgaggcca 360
 aagtgcttc attagcgata gcggtcgtt atggtcgaca agctattcca ggacaacccc 420
 taccgcccgt tggcattgat tcgcagtcaa tggcattgct gtaccaagct cgaatagtca 480
 aaaataacga tacgccaaaa 500

<210> 758
 <211> 546
 <212> DNA
 <213> *Proteus mirabilis*

<400> 758
 gatggtaatg ctgataataa caaagaactt tataccatta tgtttagtaa gcaatttcct 60
 gactggggat tgagtactta cttaaactat agtcaccaa catattggaa taagccaact 120
 aatgataatt acaacttata gtttagcgaa agcgcggata ttggtcgttt taaaaatata 180
 aatttttagtc tctccgcttt ccgtaataaa tttaatggca ccaatgataa tggcgtttat 240
 atgaatgtca gtatgccttg gggatgatcg gcgaccatca gttacaacac tgtcattaat 300
 aagagcggta actctcataa tgtcagctat tacgatcgaa ttgatgacaa tagcagttat 360
 cgtgttggtg ctggggtaag tagcaatgg aaaccttcag ccgatgctta ttttatgcat 420
 tatgctgatg cggccttagt caccgccagt gcaagtcata tcaatgggtga atatacctct 480
 gccactttat cgctacaagg tggtgccaca cttacgcga aaggtggagc attacaccgc 540

gttagt 546

<210> 759
<211> 320
<212> DNA
<213> *Proteus mirabilis*

<400> 759
caatctatgc ctgcgaaacg gatttaacca atccttggca agagcagatc actttaacta 60
aaaaagggtga tcgcttcgaa gtgaataatc caacgcctta ctatgtgaca ttagtcgatg 120
gattaaccag tttgaaagga aaaagcttgg atggctttga accattaatg atcgcaccta 180
aaagtagcgg cagcataaat ctgagtgtt ccatgtttgg tgcttcaccg gtattgagct 240
acatcaatga ttatggcggc cgccctcaga tgaaattcac ctgtagtggc aatcaatgca 300
aagtaacaga aacggcagct 320

<210> 760
<211> 507
<212> DNA
<213> *Proteus mirabilis*

<400> 760
aacagtgggt tagcccaagc aaggcagtgt tggtttttat tctggcaaca ttactggag 60
gcctgagttc tactgctgtt gctaacttac ctgcaggagc agtaataaga gcgacccccg 120
ggattgttta tatcaatatt actggaaacg tcatcgctcc acctccttgc ttaatcaatg 180
acggcaagat gatcgagggt aattttggcg aagtaatgag tacgcgtatt aatgatagca 240
attataagca acctatcgaa tataccgcga cttgccaaaa aagaccgact aacgccatga 300
aagtctatat aacaggtaat gcaacagggt tcgatagtaa tgcctacaa actaatatta 360
cgggattagg ggtacgcatt ctttatcaag gtaaattatt aggattaggc tcagcgggta 420
aatttaccta tccaatttg cctaaactag aagcgatccc tgtgcgtgat aatagagaaa 480
cactagttgg tggagatttt gttgcca 507

<210> 761
<211> 451
<212> DNA
<213> *Proteus mirabilis*

<400> 761
ttactaaatt ctacagcagt aatggcggcc gactcgccta atttaaaatt attcggaca 60

ttattagtgc cacctccttg tgttatcagc aatgacgaac gaattgaggt tttttttggt 120
 aagaacgtcg gtattaataa agttgatggt attaactata ccgaatcggg gaattatacc 180
 ttggtatgcg acgctaattt aaaaggttgg gatttgggat tatcaattat cggacctaaa 240
 acccagtttg atgaggcggc attgcaaacc aatattccag atttaggtat tcatttaact 300
 caagatggtg agccttttaa gctaaatgag cgtattggga tttcaccaga ttcgcctccg 360
 gttattcaag ctgttccagt aaaaagaccg ggaagtacat tgcctgaagg ggcatttgaa 420
 gtctcagcca ccttattage agaataccaa t 451

<210> 762
 <211> 526
 <212> DNA
 <213> *Proteus mirabilis*

<400> 762
 ccggttcata ttgggtctat ctgtatccat agggttaact tcagcggctt ttgcaatacc 60
 ggacaacctc tattttcacg gcatattagt tgatgagcct tgtaccataa aaccgggtga 120
 tgaaaccgtg gtactcgatt ttggcaatat tcttgataaa aacctttatg cctataaaaag 180
 aacgccaagc aagttatttc aattacgtct gtcagaatgc gatctctcaa tcggtaaaag 240
 cgtcaaaata acctttaag gagaggaaaa ccaagcaatg gcaggagaag gatttttggc 300
 aataagtccg ggcagccaag cttctggtat tgcggtggga ttagagtctg aaaatggtaa 360
 tgctctacct ataaataaag aaacagacaa gatgtcatta actgcgggtg acactathtt 420
 gaatttttat gcctttatc aaggtgagcc ggatgcgatt gcgaataagt cgattaaacg 480
 tggtcctttt agtgcaatag ccaccttcta tttgaattat gactga 526

<210> 763
 <211> 505
 <212> DNA
 <213> *Proteus mirabilis*

<400> 763
 ccttctaacg ccacttacac ttatgttatt gagcgttggg atccagaaac ctcaggaata 60
 ttaaactcctt gttatggttg gcctgtgtgt tatgtcacag tgaaccataa acatacagta 120
 aatggtactg ggggaaatcc tgcatttcag attgctcgaa ttgaaaaact acgtacttta 180
 gctgaagtto gtgatgtagt acttaaaaat agatcatcc ctattgaagg gcaaaccacc 240
 cacagagggc cttcattaaa ctctaataa gagtgtgtgg gattatttta tcaaccgaat 300

tcaagtggta tatcacctcg aggaaaactc ttaccagggt cactatgcgg tatcgacca 360
ccaccagtgg gtgcttgtaa aatatctgaa ggtgcggtga accttaacta tggatgatt 420
gatgaagcta gtttaagtgg tgctaagcgc tctgaaacaa tcaatgtaac ctgtaattta 480
gcaatgaaag tggtggttat cgcac 505

<210> 764
<211> 408
<212> DNA
<213> *Proteus mirabilis*

<400> 764
aacatatgag ggtgtggact aatagaaaca ttggcttttt tacctaaacg gcgtaataac 60
ccataaactt gttgacggga aattggtccc gttttttgtg ataaaaatac ccattcagaa 120
tctgattctc tccagttttc tctacttttc aaccagttgc ataaggcttc atattcctca 180
tcaataatag gttgtgttgt tgaaagccca ctttttaaac gcctgacata gaggattcta 240
ctttctagat caatatcgct taatgttaaa ttacatagtt cgctaacacg aaaaccatgt 300
aaaaaacaca ttaaaaacat acagtaatct ctttcgggat acctaccttc cttagcttgc 360
tttaaaatag cattcacttc aaaacgtgta agaaatttac gttgcttc 408

<210> 765
<211> 310
<212> DNA
<213> *Proteus mirabilis*

<400> 765
ttgattttgc gaatatagat gtaaatgctt ctgtaggtaa aaagatccaa aaaaaacgta 60
aagagctggg ttataccggt atgcagctgg ctaaaaaaat tgggtgacgc cagcaacagt 120
tttctcgcta tgaacgaggt atgaacaaaa tagatctcag acatttagtg ttgttagctc 180
tctattttaa tacaccatt tattggtttt ttgaggattg ctacgtaaaa aagccttcac 240
taaataataa aggaatagat aagcgcaatt atgttattgc tcaagcaaca cctgatgctt 300
ttcattattg 310

<210> 766
<211> 510
<212> DNA
<213> *Proteus mirabilis*

<400> 766
tggagtatca gagctatatt gtttaagcct ttttttggaa atattggact ttattcctat 60

cttggaaaac ctatattctt attgggtatc aaaaaagtat ttttaggacg tagagttaga 120
 attttccctc actctagaat tgaagtgcac ggaaataaat tgtatgagga taatatctct 180
 ataggacagt catttcatat aatatgttca agtaatatta ttatatctga aggtacatta 240
 atctctgcta atgtatztat tactgatact gatcatacat ataaaaatat ttctctaccc 300
 attcatgttc aaaaaactaa tatttctacc acttatattg gtaaaaattg ttttatagga 360
 tatggcgttg ttattcaagc tggaacaaaa ttaggaaata attgtatcgt tggtgcaaac 420
 tcaacaataa aaggctcttt ttctgataat tcaataattg taggttcacc tggacggatt 480
 attaaaaaac tagataaatt atggctgact 510

<210> 767
 <211> 934
 <212> DNA
 <213> *Proteus mirabilis*

<400> 767
 ctatcagcca cctcttcttg aatacagaga atacgcaaag cagaacaacg ttgacccgca 60
 ctatcataag cagaggccat aacgtcagtg accacttggt ccgttaaggc agaagagtcg 120
 acaatcatgg cgtttaagcc acctgtttca gcaattaaag gaacagggcg accttcgcta 180
 tcgagtctac ccgctaaggc tttttgcaaa atgtgggcaa cttcggtaga gcctgtaaac 240
 atcacaccac gcacgcgttc atctgccact aattgtgcac caatggtctc cccttgaccc 300
 ggtaagagtt gtaatgcact gcgaggtact cctgcttgat aaaatagttc tacggcttta 360
 aaagcaatca gagggggttg ctccgcaggt ttggccagta cggattacc tgccgctaac 420
 gccgctgcaa tttgtccact aaagatggct aatgggaagt tccaaggact aatacagaca 480
 acagggccta aaggacgatg ggtattatta tcaaaatcat ttgccacttg tgctgagtaa 540
 taataaagaa aatcaattgc ctacgcact tctgcaatag cattactata ggttttgccc 600
 gcttctctta ctaagacccc cattaatggg cccatttgct gttccatcag ctacgccgtg 660
 cggactaaaa atgccgctct ttccgcaggt ggggttgcaa accaaaattc accattttct 720
 tgggcaatat ctaaagcaaa attagcttcg gcggccgtcg ttacacgtac tgtaccgacg 780
 acatcgggtg gatattgccg attgagtata gattgtggtg caatcacttc ttctgcacta 840
 ttacactcac caccaatgag cggatggctg tgaattttt ccatcgaga ggtcagtaat 900
 gcactggata atgaggctaa acgatgctca ttag 934

<210> 768
<211> 501
<212> DNA
<213> *Proteus mirabilis*

<400> 768
gcactagcta ctattctttc tgctgcattt gctggctcat ctatggcgta tgacggaaca 60
attacattta caggtaaagt tgttgcgcaa acctgctctg tcaatacaaa tgataagaat 120
ttagcggtaa cattacctac agtatccacc actacattaa atgaaaatgc ggctactgca 180
ggctcttactc cattttactat tcatttaact ggttgcgctg ttggtatgga tggcgacaaa 240
agtgtcaaaa catattttga accttcaagt gacattgatg taaccacaca caacttaaaa 300
aatactgcac aaactaaagc tgataatggt caagttcaat tacttaactc agatgcagca 360
acaacaatcc agttaggtac tgattctgca acacaagatg tccatccagt acaaatcgac 420
aatgctaatag taaacctccc atattttgct caatattatg caaccggaca atctaccgct 480
ggggatgtaa aagcaaccgt t 501

<210> 769
<211> 383
<212> DNA
<213> *Proteus mirabilis*

<400> 769
gaggtaactgc atcgcaaacg cagacattga cgggtgcaca agagggcttt ttagagtgggt 60
taccccaaga gaatatcttt tttcctgatg ctcaagtgtg tttaaccaca catattcatt 120
tagcctcatc agcgaaattt atcgggtggg aaatgcagtg ttttggacgc ccagttttta 180
atgagtgggtt tgaaactggc aaggtaaaag ggcgcttaaa tttttatggt gatgagagat 240
taattttaac agagtcaatg cgggttgaag gcttacaaaa acaagctgcc gcaatgcgtg 300
aatttcctat gtttggctcg ctttatattt atcctgcaac cgatgcatta aaagagatta 360
ttcaacacca tttagagaag gta 383

<210> 770
<211> 414
<212> DNA
<213> *Proteus mirabilis*

<400> 770
gcgcttgaac taacctctac agaaaagcca aagttaacct tttgtcttac catggatgag 60
cgcacaaaaa gtcgcttaaa agtggcttta agtgacgggc aagaagccgg gctatttttg 120

cctcgaggca ccgtacttaa agagggggat attctgctgt cagaagaggg cgatgttgtc 180
accattgaag cggctaaaga gcaagtatca acggtttata gtgacgatcc attattgctt 240
gctcgtgttt gttatcactt aggtaaccga catgtaccat tgcaaataga agcgggttg 300
tgtcgttatt ttcacgatca tgtattagat gatatggctc gcggcttagg ggctacgggtg 360
gtggttggt tagaaaaata ccaacctgag ccgggggctt atggtgggtc atcc 414

<210> 771
<211> 500
<212> DNA
<213> *Proteus mirabilis*

<400> 771
gctcagcaga aaccttgta gattggtaa gcgcacaaat gaccggaaca ttagccacac 60
tcgagcttcc tatattgcgg caattacaaa cgagtttggc aaaggggtgat agcgatacag 120
tgaaatattg gtgtgacttt atggtcgcaa gtcgcgaaac caaagagtta aggcaggaag 180
agcgtcaacc ggggatcgct tttccccgtt tacttctca attaggcatt gaattagacg 240
atacgttaca acagcgggtt aaacagacgc aattaatggc gtttgctta gctgccgtgc 300
attggcatat cgatagtga aagctctgtt gtgcctatgt ttggggcttg ttagaaaata 360
cgggtgatgtc tggggtaaaa ctgggtccat tagggcaaag cgcagggcaa aaaatgttgt 420
ttgctctagc tgagcagatc cccgctattg ttgagttatc ggcacattgg ccacaagagg 480
atattggcag ttacgccag 500

<210> 772
<211> 560
<212> DNA
<213> *Proteus mirabilis*

<400> 772
gggatcttct ataactattc aaccaaagta ttaccttctt ttgattatga taccgcagga 60
aaacatatag cccgtgaaga ttccacttgg aatggcaa atgttattgg gcaaccgct 120
gaggtgactt attcattccc aaaatgggaa ggcaaattta atcaatttgg taataagaat 180
ccttatgaat ttaatgaatt acaaaaagag catgcaagaa aatctttaga tgcattgtct 240
gatattgcaa atattaaatt tactgaagtt gctgttggga atgttgatgg aatgaaggct 300
tctgacgtaa aaacagatat tacttttggg aatatctatg atcccaatgg cacatttcag 360
gcttatgcaa cattgcctaa tacctatgct tatggaaaag atctttcttg ccaagcatgg 420

tttagtgatt atcattatgc aggtaatact acaccagaat tgggtaatta tggtcgttta 480
actattatcc atgaaattgg tcatacactg ggtccttatgc atcctgggtga ttataacgca 540
ggtcagaatg ttccaggtta 560

<210> 773
<211> 509
<212> DNA
<213> *Proteus mirabilis*

<400> 773
tttctttgat ctaccttggg tccctattta ccttttagtt attactttat ttaatccttg 60
gttaggatta tttgcacttt gtgggtgcct tatcttattt gctttggcta tccttaatga 120
atatctatct aaaaatcatt taaaaaaagc gaatagtttt gccaatcaag cacaattaat 180
acaaagtcatt catttagaac atccacagac tatcgaagcg atgggaatgc ttagtcaatt 240
acgtaaacaa tggcaaacct ctcatctcaa atacttacaa gcacaaacac aagccagtga 300
taatgcagcc ggtatcaacg ctatcacaaa agtaacacgt atggcattac aatctttaat 360
gctaggttta gggggatggc ttgctattga taatactatt agtcctggaa tgatgattgc 420
aggttcaata cttttaggtc gagcattagc ccctattgag caagtgatca atgtatggaa 480
aagttgggat agtagtaaag cagcctaca 509

<210> 774
<211> 576
<212> DNA
<213> *Proteus mirabilis*

<400> 774
aagaacaagt agcaggtaaa gagtatgaaa atatcggggt atcacaattg ctaccaata 60
tttctgtcaa ttacaaaaat aatcctcgca actggcaacg taaggcttat ccaataaata 120
tatttcagga taaaataaca acagttgagt atcaaaacta tcaaagctat tctgtcaacg 180
cgattattag tcaaccacta ttgactaca ccgcatttag tgaatacaaa gcttctatca 240
ttaaaacatt attagcagac agtcattatc aaaataaatt ttcagaatta attattcgac 300
ttatcgataa ttatattcaa gttgcttata cacaagataa attattacta aatcaagcac 360
agcaagaaat ctatcaaaaa caactagctt caagtcaacg cctatttgag ttaggagaag 420
gaacaaaaac agatattgct gaaatagaga ctcgtttata tttaaccagc tcacaatata 480
ccgatcttca attagaaatt gaaaaggcta aaaacaaact cagtgcctatg atcggttcac 540

aattgcctac tcatgagcac atcgcaaagc taactg 576

<210> 775
 <211> 626
 <212> DNA
 <213> *Proteus mirabilis*

<400> 775
 ccaacttact tctatctacc tgatggtaaa attggtataa attatatgta tggttggcct 60
 aaacaaccac atagtaatat caccaaaata aattatatat tcctgatta tgataaaaaa 120
 agaaattact caaataaaaa atattcagta acagaaaaag atagaataga atcaataaaa 180
 cataccgcta aagtatatga attgacctat cttaaggaaa aaaaagaaaa agaaatcgct 240
 tcattaaaat attatagaaa taaatattca ataagtagaa tagctgaatt agaaaaagat 300
 atagaggata tagaaaatag tattatTTTT cacaagaata gtatacatcc gtatTTTTac 360
 aatacacaaa caaccatata tcctcatcaa caagaagtta tttccgatat tcttagtgaa 420
 attgcccata taacacaagc aaagtgtgtt gcatctaata cagaattoga tgccgatata 480
 aaatttggtt ttacgatga ttttcatatt agtcatggtt caatagaatt ttcataatac 540
 accagaggtt ttgcaacctc ccctagcaga tattcaaccc ctataaaaaa gataaatatt 600
 gatgaacaat accaatactc tggaac 626

<210> 776
 <211> 583
 <212> DNA
 <213> *Proteus vulgaris*

<400> 776
 catcttattg tgggtccaag cctacagcaa tttaataaag tattagctta tgagatacga 60
 actttcatcc ccgaggagct catttttagtt gatggcactc cgcttaaaat ttccccagct 120
 ctgcgtaata aaatctacaa tgaattaggt atttcctttt ttgataaaaa aacagcatta 180
 aaagaagggc ttcatgggc gaaagaagat gatgagctta gccaacagat gtctgaatac 240
 cttaatggtg aaaccgtaat ttggattgag agcacactgg aatatcctgt tttatggatt 300
 aacacctata tttcaccttc tttatggatc cgggttccac tcaactgaatt aggcgaaaat 360
 ttcttactgc cagtttatcg ccaagcaatt atttttatta ttattgttat tgcctttttc 420
 tggttatata accgttttca aaatcgccca ttaaacgaag tggaatatgc agctcgtcgt 480
 attggtaaag gcgttatctc tccccctatc ccagaatcag gttcatcaga gatgcgttcg 540

atcattcgag catttaatca aatgtcatca ggtattcgct ctt 583

<210> 777
 <211> 383
 <212> DNA
 <213> *Proteus vulgaris*

<400> 777
 cgtaagcctt atgttcgtgg tatgcagcca aactggtgga cgaaactcgg tttctatcgt 60
 ttctacatca cccgtgaagg aacttgtcta ccacaacttt gggttcagtct gggtgtactg 120
 ttcggtgtat ttgcactgaa aaatggacca gaaagtggg cgggattcgt tggattccta 180
 agtaacccaa tactgatgct gattaatatt gtgaccctta tcgcaacggg attccatacg 240
 gccacttggt ttaagcttgc accgaaagcc gttaatatcg tcgttaaaga tgaaaaatta 300
 ccacaagagc ctatcgttcg tggtttatgg ggtctaacca tcgtcgtgac tgtcgttatt 360
 ctggcagtggt cgctaattgt tta 383

<210> 778
 <211> 345
 <212> DNA
 <213> *Proteus vulgaris*

<400> 778
 aatcagaatc aacttcctaa gcgctctgat gaacctatct tctggggatt atttggtgca 60
 ggtggtatgt ggagtgcgat tgtctctcca gcaattatta tctgctcgg tattctaato 120
 ccgatgggta ttgcgccaga agcatttact tacgatcgta tcatggcatt tagccaaggt 180
 tttattgggc gtattttctt actgctaata attattctgc cagtttggtg tgcattacac 240
 cgtattcacc atacgttgca ccattttaaa gtgcatgtac ctgctagtaa ttgggtatct 300
 tatggtgctg cagcaattat tagcgttata gcaattattg gtgtt 345

<210> 779
 <211> 534
 <212> DNA
 <213> *Proteus vulgaris*

<400> 779
 gcgaagtaga agagaaagca cagcgcgaag cacaagaaaa agcacagcgc gcagctgaag 60
 aaaaagcaaa acgtgaagca caagaggcca agaaacaggc cgaagaaaaa gcgaaacgtg 120
 aagctgaaga agcaaaacgt gaagcagcgg aattagctaa gcgcgaagca gcggaaaaaa 180

ataaagtga acaaaacgat aaaccaaag ctgatgtagc agatcaggat aaagcacgtc 240
 gcaatgctga actggctgaa ctgaaacgta aaacagaaga agcacagcgc cttaaagttg 300
 aagaagagac gcgcgctgca gcagaaaaag cacgccgctt agctgaagaa aacgctgaaa 360
 aatggactgc tgaacctaa gctcctgaaa cagaaagcgc ggactatcat gtaactacat 420
 ctcgttatgc tcgtgatgca gaagatgaaa gcgatgcaga agtagaaggt gatcgccgcc 480
 gcggtcgtac tgctaaagca cctcgtgcta agaaaaataa ccgccactct gaaa 534

<210> 780
 <211> 582
 <212> DNA
 <213> *Proteus vulgaris*

<400> 780
 agctgatgtt gttgtgttg gtgctggtat ccttggatt atgacagcaa ttaaccttgt 60
 agaacgtggt ttatctgttg taattgttga gaaaggtaat atcgcggtg agcaatcttc 120
 gagattctat ggtcaggcaa ttagctataa aatgccagat gaaacgttct tattacacca 180
 tttgggcaaa catcgctggc gtgaaatgaa tgcgaaagta ggtattgata ctacttatcg 240
 tacacaaggc cgcgttgaag ttctcttga tgaagaagat ttagttaacg taagaaaatg 300
 gattgatgaa agaagtaaaa atgttggtc agatattcca tttaaaacca gaattattga 360
 aggtgctgaa ttaaatcaac gtcttcgtgg cgcgacaaca gattggaaaa ttgctggctt 420
 tgaagaagat tctggtagct tcgatccaga agttgcaacc ttcgttatgg ctgaatacgc 480
 taaaaaaatg ggtgttagaa ttactactca atgcgcggct cgtggcttag aaacacaagc 540
 tgggtgaatt tctgacgttg taacagagaa aggtgcaatc aa 582

<210> 781
 <211> 553
 <212> DNA
 <213> *Proteus vulgaris*

<400> 781
 ctaaatatgg cgcaggaaca aattactttg atatatccaa agagttatta ccgaagtggg 60
 cttgttatat tgccaatgct tcattgatct ttgtattata tatattgatc tatgcttata 120
 tctctgcggc gggttctatt atctatgaag catcactgtt atatggtatt aattttaatc 180
 tgagagctat attttttatt ttacgatag cccttgggtc tacaatatgg tggggtggcg 240
 cttgtgctag ccgtttaacc tcaattttct tattcattaa gatagtatta tttatattag 300

cgttttcggg tttgtttttt aaagcaaaag gtgatttatt atttagtgca acttttgca 360
 gaaaaagcca attatatctt tatcctttta tttttattat cattccttat gccattacct 420
 catttgata tcatggtaat gttttagtc tttataagct ttataatcaa aacgaaagaa 480
 aagtagttaa gagttgtatc attggttgct tgttagcatt agtcatctat ttactttgga 540
 tgattggcac tat 553

<210> 782
 <211> 260
 <212> DNA
 <213> *Proteus vulgaris*

<400> 782
 gttcataggc ttcacgtagt tcagcacagt ttttaacaga gtttaaagg ctaacaggg 60
 accaaacacg agaaagctta tcgctgctt ctgctaagg ttggcaaagg ttatcctgag 120
 taaattgagt attatcagcc agtaattttt caactgtttc acgatatgtg gttaaaactt 180
 cgtttagtgc aggaacgaca tgttctggtt tgataaggga aaatgcagg aatcccgttg 240
 tgctaagtaa tggatttgac 260

<210> 783
 <211> 199
 <212> DNA
 <213> *Proteus vulgaris*

<400> 783
 tggctgaaaa tgctgtaat gatattctaa aatgggttaga aaccagtta caacgtaacg 60
 aaggtataaa aatcgatact attgcgaaca aaagtgggta ttcaaaagg cacttacaac 120
 gcatatttaa agatttttaa ggctgcacat taggcgaata tgtccgcaaa cgtcgcttat 180
 tagaagcggc taaatcatt 199

<210> 784
 <211> 220
 <212> DNA
 <213> *Proteus vulgaris*

<400> 784
 gaaaggactt aaacttaact atccagagtc tgctgcatta attagttgcg cgattatgga 60
 aggtgcaaga gaaggtaaaa cagtggctca attaatgagt gaagggcgtg ctgtattaac 120
 agcagaacaa gttatggaag gcattcctga gatgatcaaa gacattcagg tggaatgcac 180
 attccctgat ggtacaaaaac ttgtttctat tcacgacct 220

<210> 785
<211> 503
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 785
actgacgctt atttgattga cactccattt acagctaaag atactgaaa gttagttact 60
tggtttgtag agcgcggcta taaaataaaa ggcagtatct cctctcattt tcatagcgac 120
agcacgggag gaatagagtg gcttaattct caatctattc caacatatgc atctgaatta 180
acaaatgaac ttcttaaaaa agacggtaag gtacaagcta aaaattcatt tagcggagcc 240
agctattggt tagttaagaa aaagattgaa attttttata ctggcccagg gcacactcca 300
gataacgtag tggtttggct acctgaacat agagttttgt ttggtggttg ttttgtaaa 360
ccgtatgggc taggtaattt ggggtgacga aatttagaag cttggccaaa gtctgccaaa 420
ttattagtgt ccaaatatgg taaggcaaaa ctggttggtc caagtcacag tgaagttgga 480
gatgcatcac tcttgaaacg tac 503

<210> 786
<211> 348
<212> DNA
<213> *Staphylococcus epidermidis*

<400> 786
atggataata aaacgtatga aatatcatct gcagaatggg aagttatgaa tatcatttgg 60
atgaaaaaat atgcaagtgc gaataatata atagaagaaa tacaaatgca aaaggactgg 120
agtcacaaaa ccattcgtac acttataacg agattgtata aaaagggtat tatagatcgt 180
aaaaaagaca ataaaatttt tcaatattac tctctttag aagaaagtga tataaaatat 240
aaaacatcta aaaactttat caataaagta tacaaaggcg gtttcaattc acttgtctta 300
aactttgtag aaaaagaaga tctatcaca gatgaaatag aagaattg 348

<210> 787
<211> 530
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 787
tagctcgtgc atcaaaggaa tatcttccag catcaacatt taagatcccc aacgcaatta 60
tcggcctaga aactggtgtc ataaagaatg agcatcaggt tttcaaatgg gacggaaagc 120

caagagccat gaagcaatgg gaaagagact tgaccttaag aggggcaata caagtttcag 180
 ctgttcccgt atttcaacaa atcgccagag aagttggcga agtaagaatg cagaaatacc 240
 ttaaaaaatt ttcctatggc aaccagaata tcagtgggtg cattgacaaa ttctggttgg 300
 aaggccagct tagaatttcc gcagttaatc aagtggagtt tctagagtct ctatatttaa 360
 ataaattgtc agcatctaaa gaaaaccagc taatagtaaa agaggctttg gtaacggagg 420
 cggcacctga atatctagtg cattcaaaaa ctggtttttc tgggtgtgga actgagtcaa 480
 atcctggtgt cgcagtgtgg gttgggtggg ttgagaagga gacagaggtt 530

<210> 788
 <211> 322
 <212> DNA
 <213> *Proteus vulgaris*

<400> 788
 acactggctg aattaagtgc tgctacattg caatatagcg ataatacagc aatgaataag 60
 atattagatt atttaggcgg tccagccaaa gtcactcaat ttgcacgttc aattaatgat 120
 gtcacttata gccttgatcg taaagagcct gaattaaata cagcaattca tggtgatcct 180
 cgtgatacta cttctccaat tgcgatggct aaaagtcttc aagcactgac attaggcgat 240
 gcactaggtc aatctcagcg tcaacaactt gtgacttggg taaaaggtaa tacaacgggt 300
 gataacagta ttaaagcggg tt 322

<210> 789
 <211> 625
 <212> DNA
 <213> *Klebsiella oxytoca*

<400> 789
 ttatctgcaa cactgatttc cgctctgctg gcgttttccg ccccggggtt ttctgccgct 60
 gataatgtcg cggcgggtgg ggacagcacc attaaaccgc tgatggcaca gcaggatatt 120
 cccgggatgg cggttgccgt ctccgtaaag ggtaagccct attatttcaa ttatggtttt 180
 gccgatattc aggcaaaaaca gccggtcact gaaaatacac tatttgagct cggatctgta 240
 agtaaaactt tcacaggtgt gctgggtgcg gtttctgtgg cgaaaaaaga gatggcgctg 300
 aatgatccgg cggcaaaaata ccagccggag ctggctctgc cgcagtggaa ggggatcaca 360
 ttgctggatc tggctaccta taccgcaggc ggactgccgt tacaggtgcc ggatgcggta 420
 aaaagccgtg cggatctgct gaatttctat cagcagtggc agccgtcccg gaaaccgggc 480

gatatgctgc tgtatgcaaa cagcagtatc ggcctgtttg gtgctctgac cgcaaacgcg 540
 gcgggggatgc cgtatgagca gttgctgact gcacggatcc tggcaccgct ggggttatct 600
 cacaccttta ttactgtgcc ggaaa 625

<210> 790
 <211> 482
 <212> DNA
 <213> Staphylococcus aureus

<400> 790
 gaaaattcac gtatgtcatg gaatcataag cattaccctt ttgatgcttg gaataaggaa 60
 caagatttaa atacagcaat gcaaaattca gttaattggg acttcgaacg tattagcgat 120
 caaataccaa agaactatac tgcgactcaa ctcaagcaat taaattatgg taataaaaaat 180
 ttgggaagtt ataaaagcta ttggatggaa gatagtttga aaatatctaa tcttgaacaa 240
 gtaatagttt ttaaaaaat gatggaacaa aataaccatt ttagtaaaaa agcaaagaat 300
 caattatctt cttcattatt gattaagaaa aatgaaaagt atgaactgta tgggaaaaca 360
 ggtacaggta tagtaaacgg gaagtataat aatgggtggg ttgtaggtta cgtaattaca 420
 aatcatgata agtattatct tgctacacat ttatcagatg gaaagccatc tgggaaaaat 480
 gc 482

<210> 791
 <211> 703
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 791
 acgttctgac tggaggaagt ttttcagcga atttcaagcc aaaggcacga tagttgtggc 60
 agacgaacgc caagcggatc gtgccatggt ggtttttgat cctgtgcat cgaagaaacg 120
 ctactgcct gcatcgacat tcaagatacc tcatacactt ttgcaacttg atgcaggcgc 180
 tgttcgtgat gagttccaga tttttcgaat ggacggcgtt aacaggggct ttgcaggcca 240
 caatcaagac caagatttgc gatcagcaat gcggaattct actgtttggg tgtatgagct 300
 atttgcaaag gaaattggtg atgacaaagc tcggcgctat ttgaagaaaa tcgactatgg 360
 caacgccgat ctttcgacaa gtaatggcga ttactggata gaaggcagca ttgcaatctc 420
 ggcgcaggag caaattgcat ttctcaggaa gctctatcgt aacgagctgc cttttcgggt 480
 agaacatcag cgcttgggtca aggatctcat gattgtggaa gccggtcgca actggatact 540

gcgtgcaaag acgggctggg aaggccgtat gggttggtgg gtaggatggg ttgagtggcc 600
gactggctcc gtattcttcg cactgaatat tgatacgcca aacagaatgg atgatctttt 660
caagagggag gcaatcgtgc gggcaatcct tcgctctatt gaa 703

<210> 792
<211> 758
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 792
tcacgctggt gtttaggaagt gtgccgctgt atgcgcaaac ggcggacgta cagcaaaaac 60
ttgccgaatt agagcggcag tcgggaggca gactgggtgt ggcattgatt aacacagcag 120
ataattcgca aatactttat cgtgctgatg agcgctttgc gatgtgcagc accagtaaag 180
tgatggccgc ggccgcggtg ctgaagaaaa gtgaaagcga accgaatctg ttaaatacagc 240
gagttgagat caaaaaatct gaccttggtt actataatcc gattgcggaa aagcacgtca 300
atgggacgat gtcactggct gagcttagcg cggccgcgct acagtacagc gataacgtgg 360
cgatgaataa gctgattgct cacgttggtg gcccggttag cgtcaccgcg ttcgcccagc 420
agctgggaga cgaaacgttc cgtctcgacc gtaccgagcc gacgttaaac accgccattc 480
cgggcgatcc gcgtgatacc acttcacctc gggcaatggc gcaaactctg cggaatctga 540
cgctgggtaa agcattgggc gacagccaac gggcgagct ggtgacatgg atgaaaggca 600
ataccaccgg tgcagcgagc attcaggctg gactgcctgc ttcctgggtt gtgggggata 660
aaaccggcag cggtgactat ggcaccacca acgatatcgc ggtgatctgg caaaagatc 720
gtgcgccgct gattctggtc acttacttca cccagcct 758

<210> 793
<211> 680
<212> DNA
<213> *Streptococcus pneumoniae*

<400> 793
cggaactgta taatcccttg aattccgtag aagattctac taatcggcgc gatactgtct 60
tgcagaatat ggttgcagca ggatatattg ataaaaacca agaaaccgaa gctgctgaag 120
ttgatatgac ttcgcaattg cacgataagt atgaaggaaa aatctcagat taccgttacc 180
cctcttattt tgatgcggtg gttaatgaag ctgtttccaa gtataatcta acagaggaag 240
agattgtcaa taatggctac cgcatattaca cagagctgga caaaactac caagcaaata 300

tgcagattgt ttatgaaaac acatcgctat ttccgagggc agaggatgga acgtttgctc 360
 aatcaggaag tgtagctctc gaaccgaaaa cagggggagt tcgtggagtt gtcggtcaag 420
 ttgctgacaa tgataaaaact ggattccgga atttcaacta tgcaacccaa tcaaagcgta 480
 gtcttggttc tacaattaag cttttagttg tttatacacc agcagttgaa gcaggctggg 540
 ctttgaataa gcagttggat aaccatacca tgcagtatga tagctataag gttgataact 600
 atgcagggat caaaacaagt cgagaagttc ctatgtatca atccttggca gaatcgctta 660
 atctacctgc tgttgccact 680

<210> 794
 <211> 669
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 794
 cgtaggcatg atagaaatgg atctggccag cggccgcacg ctgaccgcct ggcgcgccga 60
 tgaacgcttt cccatgatga gcacctttaa agtagtgctc tgcggcgag tgctggcgcg 120
 ggtggatgcc ggtgacgaac agctggagcg aaagatccac tatcgccagc aggatctggt 180
 ggactactcg ccggtcagcg aaaaacacct tgccgacggc atgacggtcg gcgaactctg 240
 cgccgcccgc attaccatga gcgataacag cgccgccaat ctgctactgg ccaccgtcgg 300
 cggccccgca ggattgactg cttttttgcg ccagatcggc gacaacgtca cccgccttga 360
 ccgctgggaa acggaactga atgaggcgct tcccggcgac gcccgcgaca ccaactaccc 420
 ggccagcatg gccgcgaccc tgcgcaagct gctgaccagc cagcgtctga gcgcccgttc 480
 gcaacggcag ctgctgcagt ggatggtgga cgatcgggtc gccggaccgt tgatccgctc 540
 cgtgctgccg gcgggctggt ttatcgccga taagaccgga gctggcgagc ggggtgcgcg 600
 cgggattgtc gccctgcttg gcccgaaataa caaagcagag cgcattgtgg tgatttatct 660
 gcgggatac 669

<210> 795
 <211> 551
 <212> DNA
 <213> *Salmonella typhimurium*

<400> 795
 cacgatagtt gtggcagacg aacgccaagc ggatcggtcc atgttggttt ttgatcctgt 60
 gcgatcgaag aaacgctact cgcttgcata gacattcaag atacctcata cactttttgc 120

acttgatgca ggcgctgttc gtgatgagtt ccagatTTTT cgatgggacg gcgttaacag 180
 gggctttgca ggccacaatc aagaccaaga tttgcgatca gcaatgcgga attctactgt 240
 ttgggtgtat gagctatttg caaaggaaat tggatgagac aaagctcggc gctatttgaa 300
 gaaaatcgac tatggcaacg ccgatccttc gacaagtaat ggcgattact ggatagaagg 360
 cagccttgca atctcggcgc aggagcaa atgcatttctc aggaagctct atcgtaacga 420
 gctgcccttt cgggtagaac atcagcgtt ggtcaaggat ctcattgattg tggaagccgg 480
 tcgcaactgg atactgcgtg caaagacggg ctgggaaggc cgtatgggtt ggtgggtagg 540
 atgggttgag t 551

<210> 796
 <211> 557
 <212> DNA
 <213> *Staphylococcus haemolyticus*

<400> 796
 agcttttgtt ttatatTTTct attggtatta ttttttaggt acatattaaa acgctatttt 60
 aattatatgt taaattataa agtttggtat ctaactcttc ttgcaggatt aattcctttc 120
 attcctatta aattctctct ttttaaattt aataatgtga ataataaagc gccacagtt 180
 gaaagtaagt cacacgactt gaaccataac ataaatacca ccaaactat tcaagagttc 240
 gcaacagata tccataagtt taattgggat tcaattgata atatctgcac agttatttgg 300
 atagtttttag ttattatttt aagtttttaa tttttgaaag cttattata tcttaaatat 360
 ttaaagaaac agtcacttta tctaaacgaa aatgaaaaaa ataaaataga tacgatactt 420
 ttcaaccatc aatataaaaa aaatattgtg attcgaaaag cagagactat tcaatctcca 480
 ataacttttt ggtatgggaa atatattatt ttgattccta gttcatattt taaaagtgt 540
 attgacaaaa gactaaa 557

<210> 797
 <211> 558
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 797
 ttgacgaagg cgtttatgtt catacttctg ttgaggaagt taacggctgg ggcgtggttc 60
 ctaaacacgg cttggtggtt cttgtaaata ctgacgctta tttgattgac actccattta 120
 cagctaaaga tactgaaaag ttagttactt ggtttgtaga gcgcggctat aaaataaaag 180

gcagtatctc ctctcathtt catagcgaca gcacgggcgg aatagagtgg cttaattctc 240
aatctattcc aacatatgca tctgaattaa caaatgaact tcttaaaaaa gacggttaagg 300
tacaagctaa aaattcathtt agcggagcca gctattgggt agttaagaaa aagattgaaa 360
ttttttatcc tggcccaggg cactctccag ataacgtagt ggtttggtta cctgaacata 420
gagttttgtt tgggtggtgt tttgttaaac cgtatgggtt aggttaatttg ggtgacgcaa 480
attdagaagc ttggccaaag tctgccaat tattagtgtc caaatatggt aaggcaaac 540
tggttgttcc aagtcaca 558

<210> 798
<211> 421
<212> DNA
<213> *Staphylococcus aureus*

<400> 798
ttaaagaatg gaaccaagat caaaatttaa attcttcaat gaaatattca gtaaattggt 60
attacgaaaa tttaaacaaa catttaagac aagatgaggt taaatcttat ttagatctaa 120
ttgaatatgg taatgaagaa atatcagga atgaaaatta ttggaatgaa tcttcattaa 180
aaatttctgc aatagaacag gttaatttgt tgaaaaatat gaaacaacat aacatgcatt 240
ttgataataa ggctattgaa aaagttgaaa atagtatgac ttgaaacaa aaagatactt 300
ataaatatgt aggtaaaact ggaacaggaa tcgtgaatca caaagaagca aatggatggt 360
tcgtaggtta tggtgaaacg aaagataata cgtattatth tgctacacat ttaaaaggcg 420
a 421

<210> 799
<211> 260
<212> DNA
<213> *Klebsiella oxytoca*

<400> 799
gacaataaccg cgatgaataa gatgattagc taccttggcg gaccggaaaa ggtgaccgca 60
ttcgcccaga gtatcgggga tgtcactttt cgtctcgatc gtacggagcc ggcgctgaac 120
agcgcgattc ccggcgataa gcgcgatacc accaccccggt tggcgatggc cgaaagcctg 180
cgcaagctga cgctgggcaa tgcgctgggc gaacagcagc gcgcccagtt agtgacgtgg 240
ctaaaaggca ataccaccgg 260

<210> 800

<211> 605
 <212> DNA
 <213> Streptococcus pyogenes

<400> 800
 aatcatcctc gtggctttga tcagcattta aaactactgt aataaccctc atttgatttt 60
 cgacactagt agctacaaaa gaagcaccgg cttttttaga ataaccaaca aaaagaccat 120
 ccacgccttc tcgataacaa ggcattgcctt taagcatgta attataactg taaatggttt 180
 gtccagcaaa aatagtggag gatttgctag ataatttcag tacttctgga aattctaata 240
 agagatgcct ggcaataaca gctaaatcag tggcgcaaaa acaattttca tcactctggtt 300
 ctgtattagg ataagtatta gctcctaaaa aatgggttagt taagccagtt gaattgacga 360
 cctttgcata ggaaatgcc cattgtctta attgtttttt cattttgtca acaaatttgg 420
 gttcggttcc gcctattttt tcagctaaag caatagcggg gctattggcg ttattaacaa 480
 ctaacgcact taaaagttct ttaacggtat attttctctt atcaagagga acattactaa 540
 tagtatagtt tgtagtgagt tcataagggt agttagaaat agttacagga ctatcccaat 600
 ttagc 605

<210> 801
 <211> 713
 <212> DNA
 <213> Staphylococcus aureus

<400> 801
 tacagtcatt tcacgcaaac tggtggccac tatgagttaa agcttgctga aggttatgaa 60
 acacatttag tgggaataaa gaacaataat aacgaggtca ttgcagcttg cttacttact 120
 gctgtacctg ttatgaaagt gttcaagtat ttttattcaa atcgcggtcc agtgatcgat 180
 tatgaaaatc aagaactcgt acactttttc tttaatgaat tatcaaaata tgtaaaaaa 240
 catcgttgtc tatacctaca tatcgatcca tatttaccat atcaatactt gaatcatgat 300
 ggcgagatta caggtaatgc tggtaatggt tggttctttg ataaaatgag taacttagga 360
 tttgaacata ctggattcca taaaggattt gatcctgtgc tacaaattcg ttatcactca 420
 gtgttagatt taaaagataa aacagcagat gacatcatta aaaatatgga tggacttaga 480
 aaaagaaaca cgaaaaaagt taaaaagaat ggtgttaaag taagatattt atctgaagaa 540
 gaactaccaa tttttagatc attcatggaa gatacgtcag aatcaaaagc ttttctgat 600
 cgtgatgaca agttttatta caatcgctta aaatattaca aagaccgtgt gttagtgcct 660

ttagcgtata tcaatattga tgaatatatt aaagaactaa atgaagagcg tga 713

<210> 802
<211> 715
<212> DNA
<213> Staphylococcus aureus

<400> 802
agttgtagtt gtcgggtttg gtatatatatt ttatgcttcc aaagataaag aaattaataa 60
tactattgat gcaattgaag ataaaaatatt caaacaagtt tataaagata gcagttatat 120
ttctaaaagc gataatggtg aagtagaaat gactgaacgt ccgataaaaa tatataatag 180
tttaggcgtt aaagatatata acattcagga tcgtaaaata aaaaaagtat ctaaaaataa 240
aaaacgagta gatgctcaat ataaaaattaa aacaaactac ggtaacattg atcgcaacgt 300
tcaatttaaat ttgtttaaag aagatggtat gtggaagtta gattgggata atagcgtcat 360
tattccagga atgcagaaag accaaagcat acatattgaa aattttaaag cagaacgtgg 420
taaaatttta gaccgaaaca atgtggaatt ggccaatata ggaacagcat atgagatagg 480
catcgttcca aagaatgtat ctaaaaaaga ttataaagca atcgctaaag aactaagtat 540
ttctgaagac tatatcaaac aacaaatgga tcaaaattgg gtacaagatg ataccttcgt 600
tccacttaaa accgttaaaa aaatggatga atatttaagt gatttcgcaa aaaaatttca 660
tcttacaact aatgaaacag aaagtcgtaa ctatcctcta ggaaaagcga cttca 715

<210> 803
<211> 360
<212> DNA
<213> Staphylococcus haemolyticus

<400> 803
gccaaataagc aagttgaaat atctatggct gaatgggatg ttatgaatat aatatgggat 60
aaaaaatcag tatcagctaa tgaaattgta gttgaaattc aaaaatataa agaagtttagc 120
gataaaacga ttagaacatt aatcacaaga ctatatataa aagagattat aaaacgatac 180
aatcagaga atatttatatt ttactcatca aatattaaag aagacgatat taaaatgaaa 240
actgctaaaa cctttcttaa taaactgtat ggaggggaca tgaaaagttt agtgctgaat 300
tttgcaaaaa atgaagaatt aaataacaaa gaaattgaag aattgcgaga cattttaaat 360

<210> 804
<211> 300
<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 804

catgcgtgta aatcatcgtc gtagagacgt cggaatggcc gagcagatcc tgcacggttc	60
gaatgtcgtgta accgctgcgg agcaaggccg tcgcgaacga gtggcggagg gtgtgcggtg	120
tggcgggctt cgtgatgcct gcttgttcta cggcacgttt gaaggcgcgc tgaaaggtct	180
ggtcatacat gtgatggcga cgcacgacac cgctccgtgg atcggtcgaa tgcgtgtgct	240
gcgcaaaaac ccagaaccac ggccaggaat gcccggcgcg cggatacttc cgctcaaggg	300

<210> 805

<211> 500

<212> DNA

<213> *Streptococcus pneumoniae*

<400> 805

tgaggaagggt agtaaggga acaatatcaa actgaccatt gatttggcct tccaagatag	60
cgtggatgct ttactgaaaa gttatttcaa ttctgagcta gaaaatgggt gagccaagta	120
ttctgaagggt gtctatgcag tcgcccttaa ccaaaaaaca ggtgcgggtt tgtctatgtc	180
agggattaaa catgacttga aaacaggaga gttgacgcct gattccttgg gaacggtaac	240
caatgtcttt gttccagggt cggttgtaaa ggcggcgacc atcagctccg gttgggaaaa	300
tggagtctta tcagggaacc agaccttgac agaccaaccg attgtcttcc aaggttcagc	360
tccgattaat tcttggtata ctcaagccta cgattcatto ccgattacag ctgtggaggc	420
cttgagtat tcttctaata cctatatggt tcaaacggct ttgggcatta tgggtcagac	480
ctatcaaccc aatatgtttg	500

<210> 806

<211> 565

<212> DNA

<213> *Staphylococcus epidermidis*

<400> 806

tagcaatata atcgacata cattaataga gaaaaagaaa aaagatggca aagatattca	60
actaactatt gatgctaaag ttcaaaagag tatttataac aacatgaaaa atgattatgg	120
ctcagggtact gctatccacc ctcaaacagg tgaattatta gcacttgtaa gcacaccttc	180
atatgacgtc tatccattta tgtatggcat gagtaacgaa gaatataata aattaaccga	240
agataaaaaa gaacctctgc tcaacaagtt ccagattaca acttcaccag gttcaactca	300
aaaaatatta acagcaatga ttgggttaaa taacaaaaca ttagacgata aaacaagtta	360

taaaatcgat ggtaaaggtt ggcaaaaaga taaatcttgg ggtggttaca acgttacaag 420
 atatgaagtg gtaaatggta atatcgactt aaaacaagca atagaatcat cagataacat 480
 tttctttgct agagtagcac tcgaattagg cagtaagaaa ttgaaaaag gcatgaaaaa 540
 actaggtgtt ggtgaagata tacca 565

<210> 807
 <211> 524
 <212> DNA
 <213> Streptococcus pneumoniae

<400> 807
 tgaagatggc agcaagagct tgctgggaac ttctggaatg gagagttcct tgaacagtat 60
 tcttgcaagg acagacggca ttattaccta tgaaaaggat cgtctgggca atattgtacc 120
 cggaacagaa ctggtatcgc acaaaactgt ggatggcaag gatgtttata caacattgtc 180
 tagtccgcta caatctttca tggaaactca gatggatgcc tttctagaaa aagtaaaagg 240
 taagtatatg accgcgacct tggtcagtgc aaagaccggt gaaattctcg ctaccacca 300
 acgacctacc tttaatgcag atactaaaga aggaatcact gaggactttg tttggcgtga 360
 tattctttat caaagtaact atgaaccagg atcagccttt aaggtcatga tgtagcttc 420
 ttctattgat aataatacct tcccaagtgg agaatacttc aatagcagtg aattcaaaat 480
 agcggatgag acgactcgag attgggatgt taatgagggt ttga 524

<210> 808
 <211> 715
 <212> DNA
 <213> Staphylococcus aureus

<400> 808
 agagatgaat gcaggaacag ttttagatcc acaaatgata aaaaatgaag atgtcagtga 60
 aaaagagtat gcagcagttt ctcagcaact ttccaaatta ccagggtgta acacgtctat 120
 ggattgggat agaaaatatc catatggcga tactttaaga ggtatattcg gagatgtatc 180
 gacacctgct gaaggtattc caaaagaatt gacagaacat tacttatcca aaggatattc 240
 acgcaatgat cgtgttgga aatcttacct agaatatcaa tatgaagatg tattgcgtgg 300
 taagaagaaa gaaatgaaat acacaacgga caaatctggt aaagttacat cttcagaagt 360
 gttaaatcct ggcgctcgcg gtcaagatgt gaaattaacg atcgatatag atcttcaaaa 420
 agaagtagaa gcattattag ataaacaaat taagaagctt cgcagtcaag gtgccaaga 480

tatggataat gcaatgatgg ttgtacaaaa tcttaaaaaat ggagacattc ttgcgcttgc 540
cggaagcag attaataaga gtggtaaaat gactgattat gacattggta cgtttacttc 600
tcaatttgcg gttggatctt ctgtaaaagg tggaacatta ttagccggtt atcagaataa 660
agctatcaaa gttggagaaa caatggtcga tgaaccatta catttccaag gtggt 715

<210> 809
<211> 623
<212> DNA
<213> *Enterococcus faecalis*

<400> 809
caaacaagaa ttagccgaag cgaagaaaac agctactaca tttttaaacg tattgtcaaa 60
acaggaattt gataagttac cgtccgttgt tcaagaagct agcttaaaga aaaatggcta 120
tgatactaaa tctgttgttg aaaaatacca agcaatttat tcagggattc aagcagaagg 180
agtcaaagct agtgatgttc aagtcaaaaa ggcgaagac aatcaatata catttaccta 240
taaattatcg atgagcactc ctttaggcga aatgaaagat ttgtcttata aatcaagtat 300
cgccaagaaa ggcgatacct accaaatcgc ttggaagccg tctttaattt ttccagatat 360
gtcaggaaat gataaaattt cgattcaagt agataatgcc aaacgtggag aaattgtcga 420
tcgtaatggt agtgggctag caattaacaa agtgtttgac gaagtgggag tagtgcctgg 480
caaactcggg tctggcgcag aaaaaacagc caatatcaaa gcttttagtg ataagtccg 540
cgtttctggt gatgaaatca atcaaaagtt aagccaagga tgggtccaag cagactcctt 600
tgtaccaatc acagttgctt ctg 623

<210> 810
<211> 660
<212> DNA
<213> *Enterococcus faecium*

<400> 810
tacagatgca gacggtgtag agaaaaaagt tctgatcgaa catgaagttc aaaatggcaa 60
agatatcaaa ttgacaatcg atgcgaaggc acaaaaaaca gcttttgaca gtctaggagg 120
aaaagctgga tcaactgttg cgacaacgcc aaaaaccggt gatcttcttg cgcttgctag 180
ctctccaagc tatgatccaa acaaaatgac aaacgggatc tcacaagaag attacaaagc 240
ttatgaagaa aatcctgaac agccattcat cagccgattt gcgacagggt atgctcctgg 300
atctacgttt aaaatgatta cagcagcaat cgggtctcgac aacggcacta tcgatccaaa 360

tgaagtgttg acgatcaacg ggcttaaatg gcaaaaagac agttcttggg gatcttatca 420
 agtaacgcgt gtcagtgatg tatcacaagt agacttaaaa actgctttga tctattccga 480
 taatatatat acggcccaag aaacgttgaa aatgggtgag aaaaaatttc gtacaggcctt 540
 agataaattc atttttggtg aagaccttga ttgccaatt agtatgaatc cagcacaat 600
 ttctaatagaa gatagcttta actcagatat cttgctagct gatactggat atggacaggg 660

<210> 811
 <211> 522
 <212> DNA
 <213> Enterococcus faecalis

<400> 811
 gccggtgtat cactaaagga aaaaacagct tctctatatg aaggaaagcca agtggtaaaa 60
 gctaagcgag gatcaatttt agatcgatat ggtaatccaa ttgcagaaga tgctacttcc 120
 tattcgttat atgtcgtatt atcaaaaaaa tatacgggac aaaataatga aaagctatac 180
 gcggagaaaa aagacttoga tgatattgct gaaatttttag cgaaatatac caaactagac 240
 aaaaaaacag cattgaaata cttgaataat gggatccatg aagatgggtc aacacaatat 300
 caagtggaat ttggtacggg tggtaaaaac atcaccttgg aaacacgcca aaaaattgaa 360
 gcgatttga aaaagaaaaa aatttcaggt gtttatttca atgaacatcc agccagatta 420
 tatcccaatg gtcagtttgc ttctcacttt attggctata caaaagcagc caatccagat 480
 gatgataaag aaggcttagt aggagcaatg ggactagaac ag 522

<210> 812
 <211> 332
 <212> DNA
 <213> Staphylococcus aureus

<400> 812
 taataaaacg tatgaaatat catctgcaga atgggaagtt atgaatatca ttgggatgaa 60
 aaaatatgca agtgcgaata atataataga agaaatacaa atgcaaaagg actggagtcc 120
 aaaaaccatt cgtacactta taacgagatt gtataaaaag ggatttatag atcgtaaaaa 180
 agacaataaa attttttaat attactctct tgtagaagaa agtgatataa aatataaaac 240
 atctaaaaac tttatcaata aagtctacaa aggcgggttc aattcacttg tcttaaaactt 300
 tgtagaaaaa gaagatctat cacaagatga aa 332

<210> 813
 <211> 530
 <212> DNA
 <213> *Streptococcus pneumoniae*

<400> 813
 cttggttagc gattcagtta gaacaaaaag caaccaagca agaaatcttg acctactata 60
 taaataaggt ctacatgtct aatggcaact atggaatgca gacagcagct caaaactact 120
 atggtaaaga cctcaataat ttaagtttac ctgagttagc cttgctggct ggaatgcctc 180
 aggcaccaa ccaatatgac ccctattcac atccagaagc agccaagac cgccgaaact 240
 tggctctatc tgaaatgaaa aatcaaggct acatctctgc tgaacagtat gagaaagcag 300
 tcaatacacc aattactgat ggactacaaa gtctcaaatc agcaagtaat taccctgctt 360
 acatggataa ttacctcaag gaagtcatca atcaagttga agaagaaaca ggatataacc 420
 tgctcacaa tgggatggat gtctacacaa atgtagacca agaagctcaa aaacatctgt 480
 gggatattta caatacagac gaatacgttg cctatccaga cgatgaattg 530

<210> 814
 <211> 355
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 814
 agcaagttga aatatctatg gctgaatggg atgttatgaa tataatatgg gataaaaaat 60
 cagtatcagc taatgaaatt gtagttgaaa ttcaaaaata taaagaagtt agcgataaaa 120
 cgattagaac attaatcaca agactatata aaaaagagat tataaaacga tacaatcag 180
 agaatattta tttttactca tcaaatatta aagaagacga tattaaaatg aaaactgcta 240
 aaacctttct taataaaactg tatggagggg acatgaaaag tttagtgtg aattttgcga 300
 aaaatgaaga attaaataac aaagaaattg aagaattgcg agacatttta aatga 355

<210> 815
 <211> 702
 <212> DNA
 <213> *Escherichia coli*

<400> 815
 acatcgaaact ggatctcaac agcggttaaga tccttgagag ttttcgcccc gaagaacgtt 60
 ttccaatgat gagcactttt aaagttctgc tatgtggtgc ggtattatcc cgtgttgacg 120
 ccgggcaaga gcaactcggc cgccgcatac actattctca gaatgacttg gttaagtact 180

caccagtcac agaaaagcat cttacggatg gcatgacagt aagagaatta tgcagtgctg 240
ccataaccat gagtgataac actgctgcca acttacttct gacaacgatac ggaggaccga 300
aggagctaac cgcttttttg cacaacatgg gggatcatgt aactcgcctt gatcgttggg 360
aaccggagct gaatgaagcc ataccaaaacg acgagcgtga caccacgacg cctgcagcaa 420
tggcaacaac gttgcgcaaa ctattaactg gcgaactact tactctagct tcccggcaac 480
aattaataga ctggatggag gcgataaag ttgcaggacc acttctgcgc tcggcccttc 540
cggctggctg gtttattgct gataaatctg gagccggtga gcgtgggtct cgcggtatca 600
ttgcagcact ggggccagat ggtaagccct cccgtatcgt agttatctac acgacgggga 660
gtcaggcaac tatggatgaa cgaaatagac agatcgctga ga 702

<210> 816
<211> 596
<212> DNA
<213> Klebsiella oxytoca

<400> 816
tgtgcagcac cagtaaagtg atggccgcgc ccgcggtatt aaaacagagc gaaagcaata 60
aagaggtggt aaataaaagg ctggagatta acgcagccga tttggtggtc tggagtccga 120
ttaccgaaaa acatctccag agcggaatga cgctggctga gctaagcgcg gcgacgctgc 180
aatatagcga caatacggcg atgaatctga tcacggcta ccttggcggg ccggaaaaag 240
tcaccgcctt cgcccgagc atcggcgatg ccacctttcg tctcgatcgt acggagccca 300
cgctgaatac cgccatcccg ggcgatgagc gtgataccag cacgccgctg gcgatggctg 360
aaagcctacg caagctgacg cttggcgatg cgctgggcga acagcaacgc gccagttag 420
tcacctggct gaaaggcaat accaccggcg ggcaaagcat tcgcgcgggc ctgcctgaaa 480
gctgggtggt cggcgataaa accggcgccg gagattacg caccaccaat gatattgcgg 540
ttatctggcc ggaagatcac gctccgctgg tattagtcac ctactttacc cagccg 596

<210> 817
<211> 558
<212> DNA
<213> Enterococcus faecium

<400> 817
acagtgccag ttcttatcgt ttattgcaag ccgatgaaaa taaaaaagt ctattattgc 60
gtcaactaat tttcatatct ttgagttgga gcgtgatctt ctagctcgt tcagtcaaac 120

tacactatatt acttcaccct aaaatagcag gatacggttt agccttatcg attttctttt 180
tagtattagt aagaataggg atattcgggtg tcaactgtcaa cggcgcacaa cgttggatct 240
ctctgttttg cattcaattc cagccttctg aactggcaaa tctttttttg attttttatt 300
taagctgggt ttttcgtgac ggaaatagta gcccaaaaga tctaaaaaaa ccattcctga 360
ttacagtagg tataactttt ctgattttat ttcagccaaa gattgctgga gcattgatga 420
tcctttcgat tgcgtgggtc atattttggg cagcggcggt tccatttaaa aaagggatct 480
atctaatacgt tactttttct gcattgctga ttggagcagc aggcggggta ttatatntag 540
gaaataaagg ttggcttc 558

<210> 818
<211> 750
<212> DNA
<213> Staphylococcus aureus

<400> 818
ctcacccaaa tggagattta ttacaattaa cgaaatgggc agaaacaaag aaattaactg 60
gatggtacgc gcgaagaatc gctgtagggtc gtgacgggtg agttcagggt gttgcgcaat 120
tactttttta aaaagtacct aaattaccgt atacgctatg ttatatattca cgtggttttg 180
ttgttgatta tagtaataaa gaagcggtta atgcattggt agacagtgca aaagaaattg 240
ctaaagctga gaaagcgtat gcaattaaaa tcgatcctga tgttgaagtt gataaaggta 300
cagatgcttt gcaaaaattg aaagcgcttg gttttaaaca taaaggattt aaagaagggt 360
tatcaaaaga ctacatccaa ccacgtatga ctatgattac accaattgat aaaaatgatg 420
atgagttatt aaatagtttt gaacgccgaa atcgttcaaa agtgcgcttg gctttaaacg 480
gaggtacgac agtagaacga tctgatagag aaggtttaaa aacatttgct gaattaatga 540
aaatcactgg ggaacgcgat ggcttcttaa cgcgtgatat tagttacttt gaaaatattt 600
atgatgcggt gcatgaagat ggagatgctg aactattttt agtaaagttg gacccaaaag 660
aaaatatagc gaaagtaa atcaagaattga atgaacttca tgccgaaata gctaaatggc 720
agcagaagat ggaaacatct gaaaagcaag 750

<210> 819
<211> 363
<212> DNA
<213> Proteus vulgaris

<400> 819

acaacatttc gccaaacagc gacgattgca gtttcattaa tatctctatt ggtatctcca 60
 atgctatggg ctaacaccaa taatacgatt gaagagcaat taagtacgct tgaaaaatat 120
 agccaaggtc gtttaggtgt tgctttaatc aacacggaag ataattcaca aataacatat 180
 cgtggggaag aacgttttgc gatggcaagt acaagtaagg ttatggctgt tgcggcagtt 240
 ttaaaagaga gtgaaaaaca agcgggatta ttagataaga atattacaat taaaaaatcc 300
 gacttagttg cttacagccc tattacagaa aaacatttag taacaggaat gtcttttagct 360
 caa 363

<210> 820
 <211> 545
 <212> DNA
 <213> Staphylococcus haemolyticus

<400> 820
 aatgatggct ttgaagtagt gttactaggt gtaaaagatg aaagcaataa agtattagct 60
 gctagtcttt tctctaaaat accgaccatg ggaagttagt tatattactc aaatcgaggc 120
 ccagtaatgg actattctga tttaggctta gttgattttt acttacgcga attagaaaag 180
 tatttacatc aacaccaatg tttatacggt aaaattgatc catactggat ttatcaaatt 240
 tatgataaag atattaatcc acttgaagat agagagaaaa atgatgctat agttaatttg 300
 tttaaatcac atggatatga acaccatgga tttactactg aatatgacac atcaagtcaa 360
 gcaagatgga tgggtgtag ctatctaaaa ggggaaacac ctgcttcatt aagaaaacaa 420
 tttgatagcc aacgtaaaag aaatattaat aaagcgataa actatggggg gaaagtaaga 480
 ttccttggtg gagatgagtt tcatatattc ttagacttat accgtgaaac .agaagcaaga 540
 acagg 545

<210> 821
 <211> 633
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 821
 ccatcaggca acagaatgat acctaaatca ttagtggccg cagtttttcc ggctttgata 60
 cccgaagtac cagttttatg tgcgaccaca gtaccagctg gtaacaaacc ttttaaccgc 120
 tctggctctg tgggtggttc gaccatccac ttccataaca aagcctgcga ggtttcagac 180
 agctgtggtt tttgctcaaa ctttttcagg atctctgcag cacctttcat cgagggtccag 240

ttttgatact gcacctgata atcggcgctg atctgcgctt catttgcgac cacagcggtc 300
 tcctttatac ccatagactg gatatagtca tgcaaagcag ctgggccacc aaccagttca 360
 aataacaaat cacaggccac gttatcgctg tgcgagaccg agtattgcag cagttgctgc 420
 actggaacac taaactcgtc tccctgatac gctttcatta tcggagccca ggtattctgt 480
 aaaaccttag ccctgtttac gataacggtc tgattttaa ccaactttcc ctgatcaacc 540
 tgatgcagta ccaacatagc taaatgcaat ttaaatacac ttgcatggg gaatttttca 600
 aaaggattaa tcagtaaagg ttccagatcg tca 633

<210> 822
 <211> 340
 <212> DNA
 <213> *Klebsiella oxytoca*

<400> 822
 ottactatcg gagctggtea ccggtttatc cggcagggac tcatcgccag tattccaacc 60
 ccagcatagg cctgttttgt cacctggccg caaatagtct gggccagcca tttgagcaac 120
 tgatgagcca gaccctgctg cccaagctgg gtttgacca cacctatata caggtgccg 180
 agtcggccat ggccaactat gcctacggct attcgaagga agataagccc atccgggtca 240
 ctccgggcgt gctggcgcc gaggcttacg ggatcaagac cggctcggcg gatctgctga 300
 agtttgccga ggcaaacatg gggatcagg gagatgccct 340

<210> 823
 <211> 768
 <212> DNA
 <213> *Proteus vulgaris*

<400> 823
 tcactcatta accattgctg aaatatttcc attgatgctg tcattggctt tgattttaa 60
 tatgttagcc aatattttcc catttcaact tctattttaa agggttgcac taactgacca 120
 ttttcaattt ctcttgaaaa catttttctt ggtgctaata caactcctcc ttcataaata 180
 gcgctttcaa tcattaagcg tgaagagtca aaaatagagc ccgttatatt tataggcgac 240
 atatttgctt tttcaaacca ttgcaaccac tcatcttctc gataagagcg atacaagttt 300
 tcatttatta gatcagttgg atgttgtaaa cgtttcgccg taccgatga acacaatacc 360
 gttaatgggtg cagaaaataa tgctttgtta tgagttaata gccataaacc ttcaccaa 420
 cgaatagcaa aatctaatac ttcatagacc aaattgacca cattattatt tgttcttaa 480

ttcacttcta ttcttgata taactgccta aattcggcca acctaggtaa taaccaccca 540
 accgcaaatg taccgacagc tgcaattgaa acaacatcgc gatattcacc gcgttcaa 600
 tgtttaaata cacgctcaat atcactaaaa gccgttgta atacagaaa taagatttga 660
 gcatcatccg tcatttctaa acctcgaggt aagcgcttaa aaagaataac gccagccgc 720
 tcttctaaca ttctcacttg ttggctaaca gcaccttgag tgacatac 768

<210> 824
 <211> 568
 <212> DNA
 <213> *Enterococcus faecium*

<400> 824
 ttatctgttt tggtactgct tacactagta gtcggctttt ttctgattga attgtccat 60
 ggattttcgt ctgcaaaaca gacctcaacc gtaaaaaagg tagatccgaa aagtgtccct 120
 accacactaa atgtggcttt gattgggtcg gatgcccggt cgaaagaaga aaatggtcgc 180
 tcagattcac ttatggttgc acaatacgac cagaaaacac aacaagcaaa actaatctct 240
 atcatgagag actcatatgt cgatatacca gggtacggaa tggataaaat caatgcagcg 300
 tactcttacg gaggaattga ttattgaac caaacattaa aggaaaattt caaatttgaa 360
 gccccgtatt atgcaagtat cacatttcaa gattttatcg attgcgtcaa tgaactgttt 420
 cctgatggag taaagattga tgcagaaaaa tctttagatt tagatggcgt atatataaaa 480
 aaaggaagc aagtaatgga tggcaatacg ttactgcagt atgctcgatt ccgtgaagac 540
 gaagaagggg actttgggag gattagaa 568

<210> 825
 <211> 763
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 825
 tgacttcgga tgagttcaat gcgtttacaa caaagcattt ttcacattac acacaatcag 60
 ctattcatta caatcataga gttgatttaa aaggcgatgt gcatcttgta ggggttaaag 120
 atgacaatgg tcaagtgatt gcaggatgct tattgacaga agcacgcaca cttaaatttt 180
 tcaaatattt ttatacacat cgcgggccag tgatggatta tacaatcaa tcattagtag 240
 catttttctt taaagcatta acgtcatatt taaagaaca caattgttta tatgtccttg 300
 tagatccata tttaattgaa aatttacgca atgcagacgg tgaaattggt aaatcttatg 360

ataaccgagc atttgtaga acaatggata aattaggtta taaacaccaa ggtttccctg 420
 taggttatga ttcaatgagc caaatccggt ggctgtcagt gttagattta aaagataaga 480
 ctgaagacca acttttataa gaaatggatt atcaaacgag acgtaatat aaaaaaacat 540
 atgatattgg tgtcaaaact aaaacgttaa cgattgatga aacgcaaact tttttcgact 600
 tattccatat ggctgaggaa aagcacggtt tcaaattccg tgagttacca tactttgaag 660
 aaatgcaaaa gttatacgat gaccacgcca tgttaaagtt ggcgtatat gatttaaagc 720
 agtattttaa aacgttacaa ttaaagcaac aacaattaac agc 763

<210> 826
 <211> 552
 <212> DNA
 <213> *Staphylococcus epidermidis*

<400> 826
 aagtataatc agttcattgc tcacgatatg tgtaattttt ttagtgagaa tgctctatat 60
 aaaatatact caaaatatta tgtcacataa gatttggtta ttagtgctcg tctccacggt 120
 aattccatta ataccathtt acaaaatc gaattttaca ttttcaaaag atatgatgaa 180
 tcgaaatgta tctgacacga cttcttcggt tagtcatatg ttagatgggc aacaatcatc 240
 tgttacgaaa gacttagcaa ttaatgttaa tcagtttgag acctcaaata taacgtatat 300
 gattcttttg atatgggtat ttggtagttt gttgtgctta ttttatatga ttaaggcatt 360
 ccgacaaatt gatgttatta aaagttcgtc attggaatcg tcatatctta atgaacgact 420
 taaagtatgt caaagtaaga tgcagttcta caaaaagcat ataacaatta gttatagttc 480
 aaacattgat aatccgatgg tatttggttt agtgaaatcc caaattgtac taccaactgt 540
 cgtagtcgaa ac 552

<210> 827
 <211> 810
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 827
 tgctttagtt ttaagtgcac gtaattcaaa cagttcacat gccaaagagt taaatgattt 60
 agaaaaaaaa tataatgctc atattgggtg ttatgcttta gatactaaaa gtggaagga 120
 agtaaaattt aattcagata agagatttgc ctatgcttca acttcaaaag cgataaatag 180
 tgctattttg ttagaacaag taccttataa taagttaaataaaaaagtac atattaacaa 240

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agatgatata gttgcttatt ctcctatfff agaaaaatat gtaggaaaag atatcactff 300
aaaagcactt attgaggctt caatgacata tagtgataat acagcaaaca ataaaattat 360
aaaagaaatc ggtggaatca aaaaagttaa acaacgtcta aaagaactag gagataaagt 420
aacaaatcca gttagatatg agatagaatt aaattactat tcaccaaaga gcaaaaaaga 480
tacttcaaca cctgctgctt tcggtaaagac tttaaataaa cttatcgcaa atggaaaatt 540
aagcaaagaa aacaaaaaat tcttacttga tttaatgtta aataataaaa gcggagatac 600
tttaattaaa gacggtgttc caaaagacta taagggttgc gataaaagtgc gtcaagcaat 660
aacatatgct tctagaaatg atgttgctff tgtttatcct aagggccaat ctgaacctat 720
tgtttttagtc atttttacga ataaagacaa taaaagtgat aagccaaatg ataagttgat 780
aagtgaacc gccaaagagt taatgaagga 810

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<210> 828
<211> 565
<212> DNA
<213> Plasmid RGN238

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<400> 828
tttgaaggaa ctgaagggtg ttttttactt tacgatgcat ccacaaacgc tgaaattgct 60
caattcaata aagcaaagtgc tgcaacgcaa atggcaccag attcaactff caagatcgca 120
ttatcactta tggcatttga tgcggaaata atagatcaga aaacctatff caaatgggat 180
aaaaccccca aaggaatgga gatctggaac agcaatcata caccaaagac gtggatgcaa 240
ttttctgttg tttgggtttc gcaagaaata acccaaaaaa ttagattaaa taaaatcaag 300
aattatctca aagattttga ttatggaaat caagacttct ctggagataa agaaagaaac 360
aacggattaa cagaagcatg gctcgaaagt agcttaaaaa tttcaccaga agaacaaatt 420
caattcctgc gtaaaattat taatcacaat ctcccagtta aaaactcagc catagaaaac 480
accatagaga acatgtatct acaagatctg gataatagta caaaactgta tgggaaaact 540
ggtgcaggat tcacagcaaa tagaa 565

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<210> 829
<211> 226
<212> DNA
<213> *Klebsiella pneumoniae*

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<400> 829
ggcttacggg atcaagaccg gctcggcgga tctgctgaag tttgccgagg caaacatggg 60

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gtatcagggg gatgccgcgg taaaaagcgc gatcgcgctc acccacaccg gtttctactc 120
 ggtgggagac atgaccagg gactgggctg ggagagttac gcctatccgg tgaccgagca 180
 gacattgctg gcgggtaacg caccggcggg gagcttccag gccaat 226

<210> 830
 <211> 502
 <212> DNA
 <213> *Proteus mirabilis*

<400> 830
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 aagttctgct atgtggtgcg gtattatccc gtgttgacgc cgggcaagag caactcggtc 120
 gccgcataca ctattctcag aatgacttgg ttaagtactc accagtcaca gaaaagcacc 180
 ttacggatgg catgacagta agagaattat gcagtgtctg cataaccatg agtgataaca 240
 ctgcggccaa cttacttctg acaacgatcg gaggaccgaa ggagctaacc gcttttttgc 300
 acaacatggg ggatcatgta acccgccttg atcgttggga accggagctg aatgaagcca 360
 taccaaacga cgagcgtgac accacgacgc ctgcagcaat ggcaacaacg ttgcgcaaac 420
 tattaactgg cgaactactt actctagctt cccggcaaca attaatagac tggatggagg 480
 cggataaagt tgcaggacca ct 502

<210> 831
 <211> 391
 <212> DNA
 <213> *Staphylococcus warneri*

<400> 831
 agttgaaaat gaaatatgta taagaacttt aatagatgat gattttcctt tgatgttaaa 60
 atggttaact gatgaaagag tattagaatt ttatggtggt agagataaaa aatatacatt 120
 agaatcatta aaaaaacatt atacagagcc ttgggaagat gaagttttta gagtaattat 180
 tgaatataac aatgttccta ttggatatgg acaaatatat aaaatgtatg atgagttata 240
 tactgattat cattatccaa aaactgatga gatagtctat ggtatggatc aatttatagg 300
 agagccaaat tattggagta aagggaattg tacaagatat attaaattga tttttgaatt 360
 tttgaaaaaa gaaagaaatg ctaatgcagt t 391

<210> 832
 <211> 380
 <212> DNA

<213> *Pseudomonas aeruginosa*

<400> 832

tcattcgcac atgtaggctc ggccctgacc aagtccaatc catgcgggct gctcttgatc	60
ttttcggctcg tgagttcgga gacgtagcca cctactocca acatcagccg gactccgatt	120
acctcgggaa cttgctccgt agtaggacat tcatcgcgct tgctgccttc gagcaagaag	180
cggttgttg cgtctcgcg gcttacgttc tgcccaagtt tgagcaggcg cgtagtgaga	240
tctatatcta tgatctcgca gtctccggcg agcaccgcg gcagggcatt gccaccgcgc	300
tcatcaatct cctcaagcat gaggccaacg cgcttggtgc ttacgtgatc tacgtgcaag	360
cggattacgg tgacgatccc	380

<210> 833

<211> 616

<212> DNA

<213> *Escherichia coli*

<400> 833

gaccgatcac cctacgagga gactcgtaat ggcgctcggg tggtatgacaa aaccgcgcgt	60
acctggccgc cgttcgatcc cgcaacggcc gggacttacc gtgggttcgg cctgctgaat	120
cagtttcttg ttcaagcccc cggcgcgcgg cgacgcgcgc accccgatgc atcgatggtc	180
gcggttggtc cactggctga aacgctgacg gagcctcaca agctcgggtca cgccttgggg	240
gaagggctgc ccgtcgagcg gtctgctgc cttggcggga aggccctgct gttgggtgcg	300
ccgctaaact ccgttacgc attgcactac gccgaggcgg ttgccgatat cccaacaaa	360
cggcgggtga cgtatgagat gccgatgctt ggaagcaacg gcgaagtcgc ctggaaaacg	420
gcacgcgatt acgattcaaa cggcattctc gattgctttg ctatcgaagg aaagccggat	480
gcggtcgaaa ctatagcaaa tgcttacgtg aagctcggtc gccatcgaga aggtgtcgtg	540
ggctttgctc agtgctacct gtctgacgcg caggacatcg tgacgttcgg cgtcacctat	600
cttgagaagc atttcg	616

<210> 834

<211> 707

<212> DNA

<213> *Escherichia coli*

<400> 834

aagtttcatt gccagacggg acttctgcaa tcgtcaaggg attgaaacct atagaagaca	60
ttgctgatga actgcgcggg gccgactatc tggtatggcg caatgggagg ggagcagtc	120

gggtgctcgg tcgtgagaac aatctgatgt tgctcgaata tgccggggag cgaatgctct 180
 ctcacatcgt tgccgagcac ggcgactacc aggcgaccga aattgcagcg gaactaatgg 240
 cgaactgtat gcccgcacat gaggaccctt gccttctgcc cttctccga tccgggatcg 300
 ctttgcagct ttgtttcagc gggcgcgcg atgatcaaaa cgcaggttgt caaactgact 360
 acgtccacgc ggcgattata gccgatcaaa tgatgagcaa tgcctcggaa ctgctggggc 420
 tacatggcga tctgcatcat gaaaacatca tgttctccag tcgcggctgg ctggtgaaag 480
 atcccgtcgg tctggtcggg gaagtgggct ttggcgccgc aaatatgttc tacgatccgg 540
 ctgacagaga cgacctttgt ctcgatccta gacgcattgc acagatggcg gacgcattct 600
 ctcgtgcgct ggacgtcgat ccgcgtcgcc tgctcgaaca ggcgtacgct tatgggtgcc 660
 tttccgcagc ttggaacgcg gatggagaag aggagcaacg cagtcta 707

<210> 835
 <211> 545
 <212> DNA
 <213> *Enterococcus faecalis*

<400> 835
 gccgaagtat cgactcaact atcagaggta gttggcgtea tcgagcgcca tctcgaaccg 60
 acgttgctgg ccgtacattt gtacggctcc gcagtggatg gcggcctgaa gccacacagt 120
 gatattgatt tgctggttac ggtgaccgta aggcttgatg aaacaacgcg gcgagctttg 180
 atcaacgacc ttttggaac ttcggcttcc cctggagaga gcgagattct ccgcgtgta 240
 gaagtcacca ttgttgtgca cgacgacatc attccgtggc gttatccagc taagcgcgaa 300
 ctgcaatttg gagaatggca gcgcaatgac attcttgacg gtatcttcga gccagccacg 360
 atcgacattg atctggctat cttgctgaca aaagcaagag aacatagcgt tgccttggtg 420
 ggtccagcgg cggaggaaact ctttgatccg gttcctgaac aggatctatt tgaggcgcta 480
 aatgaaacct taacgctatg gaactcgccg cccgactggg ctggcgatga gcgaaatgta 540
 gtgct 545

<210> 836
 <211> 515
 <212> DNA
 <213> *Escherichia coli*

<400> 836
 gcaggtcaca ttgatacaca aaattctagc tgccggcagat gagcgaaatc tgccgctctg 60

gatcgggtggg ggctgggcca tcgatgcaag gctagggcgt gtaacacgca agcacgatga 120
 tattgatctg acgtttcccg gcgagaggcg cggcgagctc gaggcaatag ttgaaatgct 180
 cggcggggcg gtcattggagg agttggacta tggattctta gcggagatcg gggatgagtt 240
 acttgactgc gaacctgctt ggtgggcaga cgaagcgtat gaaatcgcg aggctccgca 300
 gggctcgtgc ccagaggcgg ctgagggcgt catcgccggg cggccagtcc gttgtaacag 360
 ctgggaggcg atcatctggg attactttta ctatgccgat gaagtaccac cagtggactg 420
 gcctacaaag cacatagagt cctacaggct cgcattgcacc tcactcgggg cggaaaaggt 480
 tgaggctctg cgtgccgctt tcaggctcgc atatg 515

<210> 837
 <211> 502
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 837
 gctattggtg tttatggctc tcttggtcgt cagactgatg ggccctattc ggatattgag 60
 atgatgtgtg tcatgtcaac agaggaagca gagttcagcc atgaatggac aaccggtgag 120
 tggaagggtg aagtgaattt tgatagcgaa gagattctac tagattatgc atctcagggtg 180
 gaatcagatt ggccgcttac acatggtcaa tttttctcta ttttgccgat ttatgattca 240
 ggtggatact tagagaaagt gtatcaaact gctaaatcgg tagaagccca aacgttccac 300
 gatgcgattt gtgcccttat cgtagaagag ctgtttgaat atgcaggcaa atggcgtaat 360
 attcgtgtgc aaggaccgac aacatttcta ccatccttga ctgtacagggt agcaatggca 420
 ggtgccatgt tgattggtct gcatcatcgc atctgttata cgacgagcgc ttcggtctta 480
 actgaagcag ttaagcaatc ag 502

<210> 838
 <211> 452
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 838
 gctaaatcga tctcatatcg tcgagtgggtg gggcggagaa gaagcacgcc cgacacttgc 60
 tgacgtacag gaacagtact tgccaagcgt tttagcgcaa gaggccgtca ctccatacat 120
 tgcaatgctg aatggagagc cgattgggta tgcccagtcg tacgttgctc ttggaagcgg 180
 ggacggatgg tgggaagaag aaaccgatcc aggagtacgc ggaatagacc agtcactggc 240

gaatgcatca caactgggca aaggcttggg aaccaagctg gttcgagcac tggttgagtt 300
gctgttcaat gatcccgagg tcaccaagat ccaaacggac ccgtcgccga gcaacttgcg 360
agcgatccga tgctacgaga aagcgggggt tgagaggcaa ggtaccgtaa ccaccccaga 420
tggtcagcc gtgtacatgg ttcaaacacg cc 452

<210> 839
<211> 565
<212> DNA
<213> Escherichia coli

<400> 839
ctcatttggc tcaaaggctg aggtgtggct tgccccgagg tgatcaactg gcaggaggaa 60
caggaggggtg catgcttggg gataacggca attccgggag taccggcggc tgatctgtct 120
ggagcggatt tgctcaaagc gtggccgtca atggggcagc aacttggcgc tgttcacagc 180
ctatcggttg atcaatgtcc gtttgagcgc aggctgtcgc gaatgttcgg acgcgccgtt 240
gatgtggtgt cccgcaatgc cgtcaatccc gacttcttac cggacgagga caagagtacg 300
ccgcagctcg atcttttggc tcgtgtcgaa cgagagctac cgggtcggct cgaccaagag 360
cgcaccgata tggttgtttg ccatggtgat ccctgcatgc cgaacttcac ggtggaccct 420
aaaactcttc aatgcacggg tctgatcgac cttgggcggc tcggaacagc agatcgctat 480
gccgatttgg cactcatgat tgctaacgcc gaagagaact gggcagcgcc agatgaagca 540
gagcgcgcct tcgctgtcct attca 565

<210> 840
<211> 707
<212> DNA
<213> Staphylococcus aureus

<400> 840
gagaatatca ccggaattga aaaaactgat cgaaaaatac cgctgcgtaa aagatacggg 60
aggaatgtct cctgctaagg tatataagct ggtgggagaa aatgaaaacc tatatttaaa 120
aatgacggac agccggtata aaggggaccac ctatgatgtg gaacgggaaa aggacatgat 180
gctatggctg gaaggaaagc tgctgttcc aaaggtcctg cactttgaac ggcatgatgg 240
ctggagcaat ctgctcatga gtgaggccga tggcgtcctt tgctcggaag agtatgaaga 300
tgaacaaagc cctgaaaaga ttatcgagct gtatgcggag tgcacaggc tctttcactc 360
catcgacata tcggattgtc cctatacgaa tagcttagac agccgcttag ccgaattgga 420

ttactttactg aataacgatac tggccgatgt ggattgcgaa aactgggaag aagacactcc 480
atTTaaagat ccgcgcgagc tgtatgattt tTTaaagacg gaaaagcccg aagaggaaact 540
tgtcttttcc cacggcgacc tgggagacag caacatcttt gtgaaagatg gcaaagtaag 600
tggctttatt gatcttggga gaagcggcag ggcggacaag tggatgaca ttgccttctg 660
cgtccggtcg atcagggagg atatcgggga agaacagtat gtcgagc 707

<210> 841
<211> 329
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 841
cctgaccaag tccaatccat gcgggctgct cttgatcttt tcggtcgtga gttcggagac 60
gtagccacct actcccaaca tcagccggac tccgattacc tcgggaactt gtcctgtagt 120
aggacattca tcgcgcttgc tgccttcgag caagaagcgg ttgttggcgc tctcgcggct 180
tacgttctgc ccaagtttga gcaggcgcgt agtgagatct atatctatga tctcgcagtc 240
tccggcgagc accgccggca gggcattgcc accgcgctca tcaatctcct caagcatgag 300
gccaacgcgc ttggtgctta cgtgatcta 329

<210> 842
<211> 423
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 842
tgcgatgctc tatgagtggc taaatcgatc tcataatcgtc gagtgggtggg gcggagaaga 60
agcacgcccg acacttgctg acgtacagga acagtacttg ccaagcgttt tagcgcaaga 120
gtccgtcact ccatacattg caatgctgaa tggagagccg attgggtatg cccagtcgta 180
cgttgctctt ggaagcgggg acggatgggtg ggaagaagaa accgatccag gagtacgcgg 240
aatagaccag tcaactggcga atgcatcaca actgggcaaa ggcttgggaa ccaagctggt 300
tcgagcactg gttgagttgc tgttcaatga tcccagggtc accaagatcc aaacggaccc 360
gtcggcgagc aacttgcgag cgatccgatg ctacgagaaa gcggggtttg agaggcaagg 420
tac 423

<210> 843
<211> 613

<212> DNA

<213> Staphylococcus aureus

<400> 843

```

agatttgcca gaacatgaat tacacgaggg caaaaaagaa gattgttatt taatggaata      60
tagatatgat gataatgcca caaatgttaa ggcaatgaaa tatttaattg agcattactt      120
tgataatttc aaagtagata gtattgaaat aatcggtagt ggttatgata gtgtggcata      180
tttagttaat aatgaataca tttttaaaac aaaatttagt actaataaga aaaaaggtta      240
tgcaaaagaa aaagcaatat ataatttttt aaatacaaat ttagaaacta atgtaaaaat      300
tcctaataat gaattatcgt atattagtga tgaattatct atactagggt ataaagaaat      360
taaaggaact tttttaacac cagaaattta ttctactatg tcagaagaag aacaaaattt      420
gttaaaacga gatattgcca gttttttaag acaaatgcac ggtttagatt atacagatat      480
tagtgaatgt actattgata ataaacaaaa tgtattagaa gagtatatat tgttgcgatga      540
aactatttat aatgatttaa ctgatataga aaaagattat atagaaagtt ttatggaaag      600
actaaatgca aca                                     613

```

<210> 844

<211> 424

<212> DNA

<213> Staphylococcus aureus

<400> 844

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atatcaggaa agattggaaa tacggattct gttagaccac ttgaagttac gggtataaat      60
aggagtgaag ttgtcccttg gcaatatcct ccaaaaagag aatttatata cggtgagtgg      120
ctcaggggtg aatttgagaa tggacaaatt caggaaccaa gctatgatcc tgatttggct      180
attgttttag cacaagcaag aaagaatagt atttctctat ttggtcctga ttcttcaagt      240
atacttgtct ccgtaccttt gacagatatt cgaagagcaa ttaaggattc tttgccagaa      300
ctaattgagg ggataaaagg tgatgagcgt aatgtaattt taaccctagc tcgaatgtgg      360
caaacagtga ctactggtga aattacctcg aaagatgtcg ctgcagaatg ggctatacct      420
cttt                                     424

```

<210> 845

<211> 532

<212> DNA

<213> synthetic construct

<400> 845

```

aagatacggg aggaatgtct cctgctaagg tatataagct ggtgggagaa aatgaaaacc    60
tatattttaa aatgacggac agccggtata aagggaccac ctatgatgtg gaacgggaaa    120
aggacatgat gctatggctg gaaggaaagc tgccgttcc aaaggtcctg cactttgaac    180
ggcatgatgg ctggagcaat ctgctcatga gtgaggccga tggcgtcctt tgctcggaag    240
agtatgaaga tgaacaaagc cctgaaaaga ttatcgagct gtatgcggag tgcacaggc    300
tctttcactc catcgacata tcggattgtc cctatacgaa tagcttagac agccgcttag    360
ccgaattgga ttacttactg aataacgac tggccgatgt ggattgcgaa aactgggaag    420
aagacactcc atttaaagat ccgcgcgagc tgtatgattt tttaaagacg gaaaagcccg    480
aagaggaaact tgtcttttcc cacggcgacc tgggagacag caacatcttt gt          532

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```

<210> 846
<211> 200
<212> DNA
<213> Staphylococcus aureus

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<400> 846
acacagtcaa aactttatta cttcaaaaca taatatagat aaaataatga caaatataag    60
attaaatgaa catgataata tctttgaaat cggctcagga aaagggcatt ttacccttga    120
attagtacag aggtgtaatt tcgtaactgc cattgaaata gaccataaat tatgcaaac    180
tacagaaaat aaacttggtg                                200

```

```

<210> 847
<211> 510
<212> DNA
<213> Enterococcus faecium

```

```

<400> 847
cgtttaccaa aggagaagg gaccaatact ctgatataga gttctatata ttttgaaac    60
atagtataac ctggaacttt gattcatcca actggttggt tgacgtagct ccgtacttga    120
tgctttataa aatgagtag ggaacagagg tagttatttt tgataatctt atacgtgggg    180
aatttcattt cttttctgaa aaagatatga acataatccc ctggtttaaa gattcagggt    240
atattcctga tacgaaggct atgcttattt acgatgaaac agggcaatta gaaaattatt    300
tatcagagat aagtgggtgca agaccaaata gacttactga agaaaatgct aattttttgt    360
tgtgtaattt ctctaactta tgggtgatgg gaatcaacgt tctaaaaaga ggagaatatg    420
ctcgttcatt agaactctta tcacaacttc aaaaaaatac actacaactt atacgtatgg    480

```

cagaaaaaaaa tgctgataat tggctaaaca 510

<210> 848
<211> 227
<212> DNA
<213> Staphylococcus aureus

<400> 848
gtgattacag aaatgaaagc agggcacctg aaagatatcg ataaacccag cgaaccatth 60
gagggtgatag gtaagattat accgaggtat gaaaacgaga attggacctt tacagaatta 120
ctctatgaag cgccatattt aaaaagctac caagacgaag aggatgaaga ggatgaggag 180
gcagattgcc ttgaatatat tgacaatact gataaggtaa tatatct 227

<210> 849
<211> 708
<212> DNA
<213> Staphylococcus aureus

<400> 849
gacagattht cgatccctta atattgaaaa tctttatgct tatcaatthg aaaaaatagc 60
acttattgga ggtaatggta ctggcaaac cacattactg aatatgattg ctcaaaaaac 120
aaaaccagaa tctggaacgg ttgaaacgga tggcgaaatt caatattthg aacagcttaa 180
catggatgtg gaaaatgatt ttaacacgth agacggtagt ttaatgagtg aactccatat 240
acctatgcat acaaccgaca gtatgagtggt tgggtgaaaa gcaaaatata aattagctaa 300
tgtcatatca aattatagtc cgatattact tttagatgaa cctacaaatc acttggataa 360
aattggtaaa gattatctga ataatttht aaaatattac tatggthctt taattatagt 420
aagtcatgat agagcactta tagaccaa atgctgacaca atthgggata tacaagaaga 480
tggcacaata agagtgttht aaggtaatta cacacagtat caaatcaat atgaacaaga 540
acagttagaa caacaacgth aatatgaaca gtatataagt gaaaaacaaa gattgtccca 600
agccagtaaa gctaaacgaa atcaagcgca acaaatggca caagcatcat caaaacaaaa 660
aaataaaagt atagcaccag atcgthtaag tgcatcaaaa caaaaagg 708

<210> 850
<211> 259
<212> DNA
<213> Staphylococcus aureus

<400> 850
gatataggat acaaaataga agthgattgg atgccttcac gtatggaact taaacataaa 60

gaatatggat atttagatat tcatcccata aatctaaatg atgatgggtc aattactcaa 120
gcaaaccocg aaggtggcaa ttacgttttt caaaatgaat ggttctcaga aactaattat 180
aaaggccgaa aaataccatg tatttcaaaa gaagctcaac ttctttttca ttctgggtat 240
gacttaacag aaaaagacc 259

<210> 851
<211> 544
<212> DNA
<213> Staphylococcus aureus

<400> 851
catttaacga cgaaactggc taaaataagt aaacaggtaa cgtctattga attagacagt 60
catctattca acttatcgtc agaaaaatta aaactgaaca ttcgtgtcac tttaattcac 120
caagatatte tacagtttca attccctaac aaacagaggt ataaaattgt tgggaatatt 180
ccttaccatt taagcacaca aattattaaa aaagtgggtt ttgaaagcca tgcgtctgac 240
atctatctga ttgttgaaga aggattctac aagcgtacct tggatattca ccgaacacta 300
gggttgctct tgcacactca agtctcgatt cagcaattgc ttaagctgcc agcggaatgc 360
tttcatccta aacaaaaagt aaacagtgtc ttaataaaaac ttaccgcca taccacagat 420
gttcagata aatattggaa gctatatacg tactttgttt caaaatgggt caatcgagaa 480
tatcgtcaac tgtttactaa aaatcagttt catcaagcaa tgaaacacgc caaagtaaac 540
aatt 544

<210> 852
<211> 614
<212> DNA
<213> Staphylococcus aureus

<400> 852
ccagaaaaac cctaaagaca cgcaaaattt tattacttct aaaaagcatg taaaagaaat 60
attgaatcac acgaatatca gtaaacaaga caacgtaata gaaatcgat caggaaaagg 120
acattttacc aaagagctag tcaaaatgag tcgatcagtt actgctatag aaattgatgg 180
aggcttatgt caagtgacta aagaagcggg aaaccctct gagaatataa agtgattca 240
aacggatatt ctaaaatttt ccttcccaaa acatataaac tataagatat atggtaatat 300
tccttataac atcagtacgg atattgtcaa agaattacc ttgaaagtc aggctaaata 360
tagctatctt atcgttgaga agggatttgc gaaaagattg caaaatctgc aacgagcttt 420

gggtttacta ttaatggtgg agatggatat aaaaatgctc aaaaaagtac caccactata 480
 ttttcatcct aagccaagtg tagactctgt attgattggt cttgaacgac atcaaccatt 540
 gatttcaaag aaggactaca aaaagtatcg atcttttgtt tataagtggg taaaccgtga 600
 atatcgtgtt cttt 614

<210> 853
 <211> 525
 <212> DNA
 <213> Enterococcus faecium

<400> 853
 gtccgaatcc tatgaaaatg tatectatag aaggaaacaa atcagtacaa tttatcaaac 60
 ctattttaga aaaattagaa aatggtgagg ttggagaata ctcatattat gattctaaga 120
 atggagaaac ttttgataag caaatTTTTat atcattatcc aatcttaaac gataagttaa 180
 aaataggtaa attttgcTca ataggaccag gtgtaactat tattatgaat ggagcaaTc 240
 atagaatgga tggctcaaca tatccattta atttatttgg taatggatgg gagaaacata 300
 tgccaaaatt agatcaacta cctattaagg gggatacaat aataggtaat gatgtatgga 360
 taggaaaaga tgTtgtaatt atgccaggag taaaaatcgg ggatggTgca atagtagctg 420
 ctaattctgt tgTtgtaaaa gatatagcgc catacatgtt agctggagga aatcctgcta 480
 acgaaataaa acaaagattt gatcaagata caataaatca gctgc 525

<210> 854
 <211> 467
 <212> DNA
 <213> Staphylococcus aureus

<400> 854
 cattagcagg aggatgtttc tggTgcatgg ttaaaccatt tacatcatat ccaggcatca 60
 agtcagtcgt atctggTtat agTggcggtc atgttgacaa cccaacttat gaacaggTat 120
 gtacgaatca aaccggccat gtcgaagcag tacaaattac gTttgatcca gaggttactt 180
 cTtttgaaaa tatattagac atatatTtca aaacatttga cccaactgat gatcaagggc 240
 aatTtttTcga tagaggcgaa agctatcaac cagTcatttt ctatcatgat gaacatcaga 300
 aaaaggctgc tgagTttTaa aagcaacaat taaatgaaca aggtattTtTc aagaaaccag 360
 tgattacacc tattaaacca tataaaaatt tctatccagc tgaagactac catcaagatt 420
 attacaaaaa gaacccggtT cattattacc aatatcaacg tggtTca 467

<210> 855
<211> 451
<212> DNA
<213> *Staphylococcus aureus*

<400> 855
gcatataaat atcaaaacca tacaagaaat aaaaaatgac tttcaaagaa gaatgaataa 60
agttaaagaa acttatggtg tatcagatga attatggaac agatggaaac aatggttaga 120
aaacgacgaa ctatggcctc gacatgcgac catgatacat ggggacttac atccaggaca 180
tataatggta gataaccaag caaacgtcac aggtctcata gactggactg aagcaaccca 240
ctccgaccca tcaatggact ttatgggaca ccatcgtgta ttcgacgacg aaggattaga 300
gcaactcata acagcatatg gtaaagctgg aggtgaaata tggccacgaa tgaaagagca 360
tataatagaa ctcaatgcag tattcccaat gtttatcgct gagtttgcta tggaatcagg 420
agaatcggcg tatgaaacga tggcattgaa a 451

<210> 856
<211> 505
<212> DNA
<213> *Streptococcus pyogenes*

<400> 856
ggtcttgtct atggcttcac tattaggttt ttaccctat gcggtctttg gacctgcaat 60
tggtgtgcta gtggatcgtc atgataggaa gaagataatg attggtgctg atttaattat 120
cgcagcagct gggtcgggtc ttactattgt tgcattctat atggagctac ctgtctggat 180
ggttatgata gtattgttta tccgtagcat tggaacagct tttcacaccc cggctctcaa 240
tgcggttacg ccacttttag taccagaaga acagcttacg aaatgtgcag gctatagtca 300
gtctttgcag tctataagct atattgttag tccggcggtt gcagcactct tatactccgt 360
ttgggaacta aatgctatta ttgccatcga tgtattgggt gctgtgattg catctattac 420
ggtagcaatt gtacgtattc ctaagctggg tgatcgcggtg caaagtttgg acccaaattt 480
cataagagaa atgcaagaag gaatg 505

<210> 857
<211> 540
<212> DNA
<213> *Escherichia coli*

<400> 857

gttgagaatg ggagagactg agccggtcag cagtcccacg agcgcgccca acaacatcag 60
 caccggcacg cctggcaact gtgaaagcag aagcgagccc accgcagagc cacaaaatgc 120
 caccgccagc cagttctgcg ctgatatccg ggcgccgacc gacgcatgaa tggcaatgcc 180
 aaggagacca ccagccccc tcatctgagga gaacagcccc agctctgcta cttggcgtcc 240
 tgcattctaca aacagcgcgag gcatgatgac gctgccgttg gcgccaacga tgcccacgaa 300
 gatcatcact ataccaaaga gagggcgcgag caggggttcg ctccagagaa aagcgacgcc 360
 ggcgcgcatg gagagagtcg ccgtcgtggt catcgtccga gcggcacgcg cgggaagcac 420
 ccacgcgcg agcagacctg caaggacgga gcagaacgcc gtcagcccga gcgttggcgc 480
 agcgccaagc aggccgattg cggccccccc aagggccggg ccacctagaa tcgcgacggt 540

<210> 858
 <211> 500
 <212> DNA
 <213> Streptococcus pneumoniae

<400> 858
 actaagaaaa tcgtagctat ttgggcccag gatgaagagg gtgtgattgg gaaagacaat 60
 cgtctacctt ggcatctacc agcagaactg caacacttca aagaaacaac tctgaatcat 120
 gctatcttga tggggcgggg aacctttgat ggaatagggc gtcgcttgct tccacaacgg 180
 gagactttga ttttgacacg taacctagaa gaaacgatag atggggttgc tacttttcat 240
 gatgtccagt ctgtcttggg ctggtatcag gctcaagaaa agaattctta tattcttggg 300
 ggaaagcaga tttttcaggc ttttgaacct tatcttgacg aagtgattgt gactcacatt 360
 catgctcggg tggagggaga tacctatttc cctgaagagt ttgatttgtc tctttttgag 420
 acagtttcaa gtaaatTTTA cgccaaagat gagaagaatc cttatgattt taccatccaa 480
 tatcgcaaga gaaaggaagt 500

<210> 859
 <211> 423
 <212> DNA
 <213> Staphylococcus aureus

<400> 859
 caattacctt ggcaacttacc aaatgattta aagcatatta aacaactgac cactgggaat 60
 acacttgtaa tggcacggaa aacttttaat tctataggga agccattgcc aaatagacgt 120
 aacgtcgtac tcactaacca agcttcattt caccatgaag gggtagatgt tataaactct 180

cttgatgaaa ttaaagagtt atctggatcat gtttttatat ttggaggaca aacgttatac 240
gaagcaatga ttgaccaggt agatgatatg tatatcacag taatagatgg aaagtttcaa 300
ggagacacat tctttccacc atacacattc gaaaactggg aagtcgaatc ttcagtagaa 360
ggccaactag atgaaaaaaaa tactataaccg catacattct tacatttagt gcgtagaaaa 420
ggg 423

<210> 860
<211> 506
<212> DNA
<213> *Escherichia coli*

<400> 860
tggaatgggt agcttcttcg tctttttctc cattgcgccc ggactaatga tgggcaggca 60
aggtgtgtct cagcttggct tcagcctgct gttcgccaca gtggcaattg ccatgggtgtt 120
tacggctcgt tttatggggc gtgtgatacc caagtggggc agcccaagtg tcttgcgaat 180
gggaatggga tgcctgatag ctggagcagt attgcttgcc atcaccgaaa tatgggcttc 240
gcagtcctgtg ttaggcttta ttgctccaat gtggctagtg ggtattggtg tcgccacagc 300
ggatatctgtg tcgccaatg gcgctcttcg aggattcgac catgttgctg gaacggtcac 360
ggcagtctac ttctgcttgg gcggtgtact gctaggaagc atcggaacgt tgatcatttc 420
gctgttgccg cgcaacacgg cttggccgggt tgctgtgtac tgtttgaccc ttgcaacagt 480
cgtgctcgggt ctgtcttgtg tttccc 506

<210> 861
<211> 530
<212> DNA
<213> *Enterococcus faecium*

<400> 861
gataaccatc acaaacagaa tgatgtacct gtaaagatag cggtaaatat attgaattac 60
ctttattaat gaattttcct gctgtaataa tgggtagaag gtaattacta ttattattga 120
tatttaagtt aaaccagta aatgaagtcc atggaataat agaaagagaa aaagcatttt 180
cagggtatagg tgttttggga aacaatttcc ccgaaccatt atatttctct acatcagaaa 240
ggataaaatc ataaaactct ttgaagtcac tctttacagg agtccaaata ccagagaatg 300
ttttagatac accatcaaaa attgtataaa gtggctctaa cttatcccaa taacctaaact 360
ctccgtcgtc attgtaacca gttctaaaag ctgtatttga gtttatcacc cttgtcacta 420

agaaaataaa tgcagggtaa aatttatatc cttcttgttt tatgtttcgg tataaaacac 480
 taatatcaat ttctgtgggt atactaaaag tcgtttgttg gttcaaataa 530

<210> 862
 <211> 535
 <212> DNA
 <213> Staphylococcus aureus

<400> 862
 agaaaattgg gatagaaaag aatattttga acactatttt aaccagcaaa ctacgtatag 60
 cattactaaa gaaattgata ttactttgtt taaagatatg agtaaaaaga aaggatatga 120
 aatttatcct tctttgattt atgcaattat ggaagtgtga aataaaaata aagtgtttag 180
 aacaggaatt aatagtgaga ataaattagg ttattgggat aagttaaata ctttgtatac 240
 agtttttaat aagcaaaactg aaaaatttac taacatttgg actgaatctg ataacaactt 300
 cacttctttt tataataatt ataaaaatga cttgcttgaa tataaagata aagaagaaat 360
 gtttcctaaa aaaccgatac ctgaaaacac cctaccgatt tcaatgattc cttggattga 420
 ttttagttca tttaatttaa acattggtaa caatagcaac tttttattgc ctattattac 480
 gataggtaaa ttttatagtg agaataataa aatttatata ccagttgcct tgcag 535

<210> 863
 <211> 632
 <212> DNA
 <213> Proteus mirabilis

<400> 863
 ttagcactct atgcgacgat gcagggtgatc ttgcaccta ttttaggaaa attatcagat 60
 aaatatggca gaaaacctat tttattaatt tcgctattgg gtgccgcatt agattaccta 120
 ttaatggcct gccccacctc attatggatg ctctacattg gacgaataat tgcgggtata 180
 acaggagcca ctggtgcagt atgcgcatca gcaatgactg atgtaactca tcctcatgaa 240
 agaacacgct atttcggttt tttgggtggg gcatttgggt tgggtttaat tattggcccc 300
 atgttagggg gattactcgg tgagatcagc gcccatacgc catttatcct tgcggctatt 360
 tctcattcgt tattatttat attttcatta ctttgtttcc aagaaactca aaccacaaaa 420
 atttcgactg aaatatccgc attaaatcag gatcacgcgc ctactctac cactggtttt 480
 attaaaaaga gtctcttttt ttggcttatt gcctatttta ttattcaact aatagggcaa 540
 attccggcca ctatttgggt gctattcaca caagttcggt tcgcttggca cactactgaa 600

gtaggtttat ctcttgcat tcttggtgta tt 632

<210> 864
 <211> 656
 <212> DNA
 <213> Enterococcus faecalis

<400> 864
 cacctgcgag tacaaactgg gtgaacacag cctttatgtt aaccttttcc attggaacag 60
 ctgtatatgg aaagctatct gatcaattag gcataaaaag gttactccta tttggaatta 120
 taataaattg tttcgggtcg gtaattgggt ttgttgacca ttctttcttt tccttactta 180
 ttatggctcg ttttattcaa ggggctggtg cagctgcatt tcagcactc gtaatggtg 240
 tagttgcgag ctatattcca aaggaaaata ggggtaaagc atttggctct attggatcga 300
 tagtagccat gggagaagga gtcggtccag cgattggtgg aatgatagcc cattatatc 360
 attggtccta tcttctactc attcctatga taacaattat cactgttccg tttcttatga 420
 aattattaaa gaaagaagta aggataaaag gtcattttga tatcaaagga attatactaa 480
 tgtctgtagg cattgtatct tttatgttgt ttacaacatc atatagcatt tctttcttta 540
 tcgttagcgt gctgtcatc ctgatatttg taaaacatat caggaaagta acagatcctt 600
 ttgttgatcc cggattaggg aaaaatatac cttttatgat tggagtctct tgtggg 656

<210> 865
 <211> 554
 <212> DNA
 <213> Enterococcus faecalis

<400> 865
 gacaaaggta caacgaggac ggataatacg cttttagaac gtcagagagg aattacaatt 60
 cagacaggaa taacctcttt tcagtgggaa aatacgaagg tgaacatcat agacacgcca 120
 ggacatatgg atttcttagc agaagtatat cgttcattat cagttttaga tggggcaatt 180
 ctactgattt ctgcaaaaga tggcgtacaa gcacgaactc gtatattatt tcatgcactt 240
 agggaaatgg ggattcccac aatctttttt atcaataaga ttgacaaaaa tgggaattgat 300
 ttatcaacgg tttatcagga tattaaagag aaactttctg ccgaaattgt aatcaaacag 360
 aaggtagaac tgtatcctaa tgtgtgtgtg acgaacttta ccgaatctga acaatgggat 420
 acggtaatag agggaaacga tgaccttta gagaaatata tgtccggtaa atcattagaa 480
 gcattggaac tcgaacaaga ggaaagcata agatttcaga attgttctct gttccctctt 540

tatcatggaa gtgc 554

<210> 866
 <211> 404
 <212> DNA
 <213> Enterococcus faecium

<400> 866
 tcttatggca gtacgcaacg taaaatcgat tgtgcgctct gtggaaaaac atgatttcag 60
 gttggacagc gaccgtggca aggtactcag cgacatgaca gttggtgtgg tgggaacggg 120
 ccagataggc aaagcgggta ttgagcggct gcgaggattt ggatgtaaag tgttggttta 180
 tagtcgcagc cgaagtatag aggtaaacta tgtaccgttt gatgagttgc tgcaaaatag 240
 cgatatcggt acgcttcattg tgccgctcaa tacggatacg cactatatta tcagccacga 300
 acaaatacag agaatgaagc aaggagcatt tcttatcaat actgggcgcg gtccacttgt 360
 agatacctat gagttgggta aagcattaga aaacgggaaa ctgg 404

<210> 867
 <211> 250
 <212> DNA
 <213> Enterococcus faecium

<400> 867
 gtgcggtatt gggaaacagt gccgcgtag ttgttgccga ggtggaccaa atcaggctgc 60
 agtacggaat ctttcgtatt catcaggaag tcgagccgga aaaaggctct gaaaacgcag 120
 ttataaccgt tcccgcagac ctttcagcag aggagcgagg acggatacag gaaacggcaa 180
 aaaaaatata taaagcgctc ggctgtagag gtctagcccg tgtggatatg tttttacaag 240
 ataacggccg 250

<210> 868
 <211> 663
 <212> DNA
 <213> Enterococcus faecium

<400> 868
 aagtgtgggc attactgttt ttggatgcga acaggatgag gcaaattgctt tccgcgcttt 60
 atcgccggat tttcatatta tccctacgct gattagcgat gcgatatcgg cagacaacgc 120
 aaaattggcc gctggcaatc aatgcgtagg cgtaggccat aagtccgagg tttccgaggc 180
 gacaattctt gcgctgagaa aggtcgggggt aaaatacatt tctacccgca gcacggctg 240
 cgatcacatt gatacgactg ccgccgagag aatgggaatc tcggttgcca cggttgcgta 300

ttccgccggac agcgttgccg attatgcttt gatgctgatg ctgatggcca tacggggtgc 360
 aaaaccacc atgcacgccg tggcgcaaca agatttcaga ttggatcgta tccgggggaa 420
 agaactgggg gatatgactg tgggagttat tggaaccggc catatcgggc aagcggtcgt 480
 caaaaggctg cggggatttg gatgccatgt gctggcctat gataacagcc gaaaaatgga 540
 tgcagattat gtccagcttg atgagcttct aaaaaacagc gatattgtta cgctccatgt 600
 gccgctttgt gcggataccc gccatctgat cggtcagaag caaattggag agatgaagca 660
 agg 663

<210> 869
 <211> 572
 <212> DNA
 <213> *Enterococcus faecium*

<400> 869
 acgagaatta tacggttttc aaatactata ccgccaaaga agcattggaa tgtatagaca 60
 agtctgagat tgaccttgcc atattggaca tcatgcttcc cggcacaagc ggccttacta 120
 tctgtcaaaa aataagggaac aagcacacct atccgattat catgctgacc gggaaagata 180
 cagaggtaga taaaattaca gggtaacaa tcggcgcgga tgattatata acgaagccct 240
 ttcccccact ggagttaatt gctcgggtaa aggccagtt gcgccgatac aaaaaattca 300
 gtggagtaaa ggagcagaac gaaaatgtta tcgtccactc cggccttgtc attaatgtta 360
 acacccatga gtgttatctg aacgagaagc agttatccct tactcccacc gagttttcaa 420
 tactgcgaat cctctgtgaa aacaagggga atgtggttag ctccgagctg ctatttcatg 480
 agatatgggg cgacgaatat ttcagcaaga gcaacaacac catcacctg catatccggc 540
 atttgcgcga aaaaatgaac gacaccattg at 572

<210> 870
 <211> 280
 <212> DNA
 <213> *Enterococcus faecium*

<400> 870
 gaattctact tgtcaggat gatgatcata tctgtaatac agtaagggcg tttctggctg 60
 aggcaggata tcaggatgat gcctgcacag atggaaatga ggcatacacc aagttttacg 120
 aaaacactta tcaactgggt attcttgata ttatgctgcc cggatgaac gggcatgaac 180
 ttttgcgtga atttctgctg aaaaatgata ctccattct gatgatgaca gcctgtcgg 240

atgacgaaaa ccaaataccgg gcgtttgatg cagaggcaga 280

<210> 871
 <211> 564
 <212> DNA
 <213> Enterococcus faecium

<400> 871
 aatgatccga gggaaacttg gggattggat cttaagtatt ttggaaaaca aatatgactt 60
 aaatcacctg gacgcgatga aattatatca atattccata cggaacaata tagatatctt 120
 tatttatgtg gcgattgtca ttagtattct tattctatgt cgcgtcatgc tttcaaaatt 180
 cgcaaaatac tttgacgaga taaataccgg cattgatgta cttattcaga acgaagataa 240
 acaaattgag ctttctgcgg aaatggatgt tatggaacaa aagctcaaca cattaanaacg 300
 gactctggaa aagcgagagc aggatgcaaa gctggccgaa caaagaaaaa atgacgttgt 360
 tatgtacttg gcgcacgata ttaaaacgcc cttacatcc attatcgggtt atttgagcct 420
 gcttgacgag gctccagaca tgccggtaga tcaaaaggca aagtatgtgc atatcacgtt 480
 ggacaaagcg tatcgactcg aacagctaata cgacgagttt tttgagatta cacggtataa 540
 cctacaaacg ataacgctaa caaa 564

<210> 872
 <211> 595
 <212> DNA
 <213> Enterococcus faecium

<400> 872
 acatgagttg gaggaacac agcgatatatt ctttgcggca gcttctcatg agctaaaaac 60
 gcccatcgcg gctacaagcg ttctgttggg gggaaatgctt gaaaatatcg gtgactacaa 120
 agatcattct aagtatctgc gcgaatgcat caaaatgatg gataggcagg gcaaaatcat 180
 ttccgaaata ctggagcttg tcagcctgaa tgatgggaga atcgtaccca tagctgaacc 240
 gttggacata gggcgacagg ttgccgagtt gctgcccgat tttcaaacct tggcagaggc 300
 aaacaaccag cggttcgtca cagatatcc agccgggcaa attgtcctgt ccgatccgag 360
 gctgctocaa aaggcactat ccaatgtcat attgaatgca gttcagaaca cgccgaggg 420
 aggcgaggta cggatatgga gtgagcctgg tgctgaaaaa tgccgccttt ttgttttgaa 480
 catgggcgtt cacattgatg atactgcgct tccaaggctg ttcaccccat tctatcgcat 540
 tgatcaggcg cgaagcagaa aaagtgggag aagcggttta ggacttgcca tcgta 595

<210> 873
<211> 598
<212> DNA
<213> *Enterococcus faecium*

<400> 873
ggcagcaaag accttaaacg gcttattgat aagaccgggg gaaacctttt ctttctggtg 60
gctggtacgc catgcggaca aagatacccc ctataaagac ggccttacgg tgaccaatgg 120
taaactcacc accatgtcgg gcggcgggtat gtgccagatg agcaatttac tattttggat 180
gttcttgcac acgccattga caattatcca gcgcagaggt cacgaagtaa aggagtctcc 240
agagccaaac agtgacgaga ttaaaggggt ggatgcaacc atttcagagg gctggattga 300
tttaaaagtg cgaaacgata ccgactgcac ctaccaaata tgggtgacct tagatgatga 360
gaaaatcadc ggtcaggtgt ccgccgacaa agagccccaa gcattataca aaattacaaa 420
tggcagtatc cagtatgtcc gtgaaagtgg cgggatttat gaatatgccc aggttaaaccg 480
gatgcaagtt gccttaggta ccggggaaat aatagattgc aagctgcttt atacaaacaa 540
atgcaaaaac tggtatcccc tcccggaaag tgtggatatt caggaggaga accaatga 598

<210> 874
<211> 673
<212> DNA
<213> *Enterococcus faecalis*

<400> 874
gaagatggaa caattcaagg attcatggaa accattaata tgccttatgt aggcgcgggt 60
gtcttagcta gcgttaacgc aatggacaaa atcatgacga aatatctttt acaaactggt 120
ggcattccac aagtaccatt cgtgccagtt ttaagaagtg actggaaagg aaatccaaaa 180
gaagtctttg aaaaatgtga aggttcttta atttatccgg tctttgttaa acctgccaat 240
atgggttcta gtgtcggaat tagcaaagtg gaaaatcgtg aagaattgca agaagcattg 300
gaagaagctt tccgttatga tgcccagca attgttgaac aagggatcga agcacgtgaa 360
attgaagtag ccattttagg aaatgaagat gtccgtacga ctttacctgg tgaagtgggtg 420
aaagatgtcg ctttctatga ttatgatgca aaatacatca ataacacgat tgaaatgcaa 480
atcccagcgc atgttccaga agaagtagct catcaagcgc aagaatacgc taaaaaagcg 540
tatattatgt tagatggaag tggcttaagt cgctgtgatt tcttcttaac aagcaaaaac 600
gaattattcc tgaatgaatt gaacaccatg cctggtttta ctgactttag tatgtatcct 660

ttactgtggg aaa

673

<210> 875
 <211> 360
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 875
 tacagtctat ccgggcattg ccagtcgggg atattaaaaa gagtataggt ttttattgcg 60
 ataaactagg tttcactttg gttcaccatg aagatggatt cgcagttcta atgtgtaatg 120
 aggttcggat tcatctatgg gaggcaagtg atgaaggctg gcgctctcgt agtaatgatt 180
 caccggtttg tacaggtgcg gagtcgttta ttgctggtac tgctagttgc cgcattgaag 240
 tagagggaaat tgatgaatta tatcaacata ttaagccttt gggcattttg caccccaata 300
 catcattaaa agatcagtgg tgggatgaac gagactttgc agtaattgat cccgacaaca 360

<210> 876
 <211> 508
 <212> DNA
 <213> *Enterococcus faecium*

<400> 876
 tgggataact tcacaggaaa accggtggat gggatgagg tgaatcgcat catcggcaca 60
 aaggccgtgg cgtttgctct gcgcgaggca caaatccatg cggctgcgct tggctatggc 120
 ttgcttttat gggatggata tcggccaaga actgcggtgg actgcttctt gcgttgggca 180
 gcgcaaccgg aggacaatct caaaaagaa aaattttacc ccaatataga gcgagccgag 240
 ttgattacaa agggttatgt ggcctcaciaa tccagccata gccgtggaag cgcaattgat 300
 cttacgctct accacctgga tacaggggaa cttgtttcaa tgggaagtaa cttcgathtt 360
 atggacgaac ggtcgcatca tacagcaaaa gggatagggg atgcagaggc acaaaatcga 420
 agatgcttgc gtaaaatcat ggaaagcagc ggatttcagt cttatcgctt tgaatggtgg 480
 cactataagt tgattgatga gccatacc 508

<210> 877
 <211> 551
 <212> DNA
 <213> *Enterococcus faecium*

<400> 877
 atacttaggt tatgactacg ttaatgaagc actgttttct caggaaaaag tcgaatttca 60

aaattatgat caaaatccca aagaacattt agaaaatagt gggacttctg aaaataccca 120
 agagaaaaca attacagaag aacaggttta tcaaggaaat ctgctattaa tcaatagtaa 180
 atatcctgtt cgccaagaaa gtgtgaagtc agatatctgt aatttatcta aacatgacga 240
 attaataaat ggatacgggt tgcttgatag taatatattat atgtcaaaag aaatagcaca 300
 aaaattttca gagatggtca atgatgctgt aaagggtggc gttagtcatt ttattattaa 360
 tagtggctat cgagactttg atgagcaaag tgtgctttac caagaaatgg gggctgagta 420
 tgccttacca gcaggttata gtgagcataa ttcaggttta tcactagatg taggatcaag 480
 cttgacgaaa atggaacgag cccctgaagg aaagtggata gaagaaaatg cttggaaata 540
 cgggttcatt t 551

<210> 878
 <211> 552
 <212> DNA
 <213> Enterococcus faecium

<400> 878
 gtgcgttcat tatttcgttc acagtctgca cgctgttttt ggggtggaga ctggcttccg 60
 tattggaggc aacacagata ccgcccattc ctgcaactca tacaggcagc agcactgacg 120
 tagtggagaa tttggaggaa aacgctcttg ccaccgcaa agaacaggga gatgaacagg 180
 aatggagcct gatttttagtg aacaggcaga accccatccc cgcacagtac gatgtggagc 240
 ttgagcaact atcaaagtgt gagcggatag atattcggat ttctccctat cttcaagatt 300
 tgtttgatgc cgcaagaact gatggagttt acccgattgt cgcacccgga taccgaacaa 360
 cagaaaaaca gcaagaaatt atggatgaaa aaattgccga atataaggcg aaaggctaca 420
 cctctgcaca ggctaaagcg gaagcagaaa cttgggtggc cgtgccggga acgagcgagc 480
 atcagcttgg tcttgctgtg gatatcaatg cggacggaat tcattcaaca ggcaacgagg 540
 tttatagatg gc 552

<210> 879
 <211> 542
 <212> DNA
 <213> Enterococcus faecalis

<400> 879
 ttgtctggta tcccctatgt aggctgcgat attcaaagct ccgcagcttg catggacaaa 60
 tcactggcct acattcttac aaaaaatgcg ggcacgcgcg tccccgaatt tcaaatgatt 120

gaaaaagggtg acaaaccgga ggcgaggacg cttacctacc ctgtctttgt gaagccggca 180
 cggtcagggtt cgtccttttg cgtaaccaa gtaaacagta cggaagaact aaacgctgcg 240
 atagaagcag caggacaata tgatggaaaa atcttaattg agcaagcgat ttcgggctgt 300
 gaggtcggct gcgcgggtcat gggaaacgag gatgatttga ttgtcggcga agtggatcaa 360
 atccggttga gccacggtat cttccgcac catcaggaaa acgagccgga aaaaggctca 420
 gagaatgcga tgattatcgt tccagcagac attccggtcg aggaacgaaa tcgggtgcaa 480
 gaaacggcaa agaaagtata tcgggtgctt ggatgcagag ggcttgctcg tgttgatctt 540
 tt 542

<210> 880
 <211> 457
 <212> DNA
 <213> Enterococcus faecium

<400> 880
 aggattgcta gctttatatt tagtgacact aatctgggta gtgttattca aattacaata 60
 caatatTTTA tcagtattta attatcatca aagaagtctt aacttgactc catttactgc 120
 tactgggaat ttcagagaga tgatagataa tgttataatc tttattccat ttggcttgct 180
 tttgaatgtc aattttaaag aaatcggatt tttacctaag tttgcttttg tactggtttt 240
 aagtcttact tttgaaataa ttcaatttat cttcgtatt ggagcgacag acataacaga 300
 tgtaattaca aatactgttg gaggtttct tggactgaaa ttatatggtt taagcaataa 360
 gcatatgaat caaaaaaaat tagacagagt tattatTTTT gtaggtatac ttttgctcgt 420
 attattgctc gtttaccgta cccatttaag aataaat 457

<210> 881
 <211> 360
 <212> DNA
 <213> Enterococcus flavescens

<400> 881
 aagctgcctt atgtagggtg cggggtggcc ggttctgcct tatgtatgaa caaatggctg 60
 ctgcatcaag ctgcagcagc cattggcgta caaagtgtc ctacgattct cttgacaaat 120
 caagccaacc agcaagaaca aatcgaagct tttatccaga cccatggctt tcagttttc 180
 ttttaagcta atgaagcggg ctctcaaaa gggatcacta aagtcacctg cgttgaagaa 240
 atcgtttctg ccttaaaaga agcctttact tattgttccg cagtgtcctt acaaaaaaat 300

attgccggtg ttgagatcgg ttgcggtatt ttgggcaacg actctttgac tgtcggtgct 360

<210> 882
<211> 459
<212> DNA
<213> *Enterococcus faecium*

<400> 882
gacatacagag ttggctgaat cgcttttgaa ggcaaaagaa ctggctgcta cccaagggtg 60
cggattgctt ctatgggacg gttaccgtcc taagcgtgct gtaaactggt ttatgcaatg 120
ggctgcacag ccggaaaata acctgacaaa ggaaagtat tatcccaata ttgaccgaac 180
tgagatgatt tcaaaaggat acgtggcttc aaaatcaagc catagccgcg gcagtgccat 240
tgatcttacg ctttatcgat tagacacggg tgagcttgta ccaatgggga gccgatttga 300
ttttatggat gaacgctctc atcatgcggc aaatggaata tcatgcaatg aagcgcaaaa 360
tcgcagacgt ttgcgctcca tcatggaaaa cagtgggttt gaagcatata gcctcgaatg 420
gtggcactat gtattaagag acgaaccata cccaatag 459

<210> 883
<211> 500
<212> DNA
<213> *Proteus mirabilis*

<400> 883
cctttgaagc tgggtactgac cctgatattg cgcaagtcca agtgcaaaat aaattgcaat 60
tggcaatgcc tcttttacct caggaagtac aacaacaagg gattagtgtc gataaatctt 120
ctagttcatt cttaatgggt gcagggttta tctctggtga tggctcgatg tcacaagatg 180
acatcgccga ctatgtaggt gcaacaatta aagatccatt aagccgtgtc acaggggtgg 240
gtgaaacgca gttatttggt acacaatacg caatgcgtat ttggttagat ccagataaac 300
tggtgaaata taacatgacc acacttgatg ttattaatgc gattaaatcg caaaataacc 360
aagtggcggc aggccaatta ggtggtacgc caccagtgcc tggtcagcgt ttaaatgtat 420
ctatcattgc gcaaaactga cttaatacac ctgagcaatt tgctgatatt ctgatgaaag 480
tcaatcaaga cggttcacag 500

<210> 884
<211> 280
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 884
 tgtcgaagtt tttcattgat aggcccatTT tcgcgtgggt gatcgcccttg gtgatcatgc 60
 tcgcggggcgg cctgtcgatc ctcaatctgc cggTcaacca gtaccCGGCC atcgccccgc 120
 cggccatcgc cgtgcaggTg agctaccCGg gcgcctcggc cgagacggTg caggacaccg 180
 tggTccaggT gatcgagcag cagatgaacg ggatcgacaa tctgcgctac atctcctcgg 240
 agagtaactc cgacggcagc atgaccatca ccgtgacctt 280

<210> 885
 <211> 477
 <212> DNA
 <213> Staphylococcus aureus

<400> 885
 caatggttac aggtTgtgga agaactttct ctttttaaag ctggcttata cctattacct 60
 atggcaatag gagctatggT gttTgcacca attgcaccCG gattagcggc gcgattTgga 120
 ccgaaaatag tgTtaccttc cggaattgga attgcagcca ttggcatgTt tattatgtat 180
 ttctttggTc atccattatc atattctaca atggcttttag cattaatttt agTtgaagct 240
 ggtacggctt cactagcagT tgcattctgct ctaataatgt tagaaacacc tacatcaaaa 300
 gcaggtaatg cagctgctgt tgaagagtct atgtatgacc ttggaaatgt ttttggTgta 360
 gcagtacttg gtagcctatc ttctatgctt tatcgtgtat ttttagatat ttcatctttt 420
 tcatcaaaaag gtatagTtgG agatttagct catgtagctg aagaatctgt agTgggc 477

<210> 886
 <211> 584
 <212> DNA
 <213> Escherichia coli

<400> 886
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 acccagcgt atgcgctcaa gcgcggcgtg ggctacctga acgatatcca aggatttctt 120
 gacctgCgc tctatcccga tattgctgag gcggactgca ggctggTggT tatgcactca 180
 gcgcagcggg atggcatcgc caccgcacc ggtcaccttc gaccgaaga cgcgctcgac 240
 gagattgtgc ggttcttcga ggcgcgggtt tccgccttgc gacggagcgg ggtcgtgccc 300
 gaccggctca tctcgatcc ggggatggga tttttcttga gcccgcacc ggaaacatcg 360
 ctgcacgtgc tgtcgaacct tcaaaagctg aagtcggcgt tggggcttcc gctattggTc 420
 tcggtgtcgc ggaaatcctt cttgggcgcc accgttggcc ttctgtaaa ggatctgggt 480

ccagcgagcc ttgcggcgga acttcacgcg atcggcaatg gcgctgacta cgtccgcacc 540
 cacgcgcctg gagatctgcg aagcgcaatc accttctcgg aaac 584

<210> 887
 <211> 784
 <212> DNA
 <213> Escherichia coli

<400> 887
 catcgtcaac ataacctcgg acagtttctc cgatggaggc cggatatctgg cgccagacgc 60
 agccattgcg caggcgcgta agctgatggc cgagggggca gatgtgatcg acctcgggtcc 120
 ggcattccagc aatcccgcag ccgcgcctgt ttcgctccgac acagaaatcg cgcgtatcgc 180
 gccggtgctg gacgcgctca aggcagatgg cattcccgtc tcgctcgaca gttatcacc 240
 cgcgacgcaa gcctatgcct tgtcgcgtgg tgtggcctat ctcaatgata ttcgcggttt 300
 tccagacgct gcgttctatc cgcaattggc gaaatcatct gccaaactcg tcgttatgca 360
 ttcggtgcaa gacgggcagg cagatcggcg cgaggcacc cgtggcgaca tcatggatca 420
 cattgcggcg ttctttgacg cgcgcacgc ggcgctgacg ggtgccggta tcaaacgcaa 480
 ccgccttgtc cttgatcccg gcatgggggt ttttctgggg gctgctcccg aaacctcgct 540
 ctcggtgctg gcgcggttcg atgaattgcg gctgcgcttc gatttgccgg tgcttctgtc 600
 tgtttcgcgc aaatccttctc tgcgcgcgct cacaggccgt ggtccggggg atgtcggggc 660
 cgcgacactc gctgcagagc ttgccgccgc cgcagggtga gctgacttca tccgcacaca 720
 cgagccgcgc cccttgcgcg acgggctggc ggtattggcg gcgctgaaag aaaccgcaag 780
 aatt 784

<210> 888
 <211> 344
 <212> DNA
 <213> Staphylococcus lugdunensis

<400> 888
 gaggtgtaat tatgattcag actattgtaa ctgctgctat ctttatattg cgcaagcatt 60
 agacttatta gtgattttat taatgttctt tgctagagca aagactagga aagaatatcg 120
 agatatttat attggtcaat atgtaggatc tgtggcatta attgtcataa gtttattctt 180
 tgcctttgtc ttaaattatg ttctgaaaa atggatatta ggattattag ggtaataacc 240
 gatttattta ggaattaaag tggctattta tggatagatg gacggagaag agagagctaa 300

aaaagaattg aatgaaaagg gattgtctaa attagttggt acga

344

<210> 889
<211> 503
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 889
ctcgacccga tctacgtcga cgtcaccag ccgtccaccg ccctgttgcg catgcgccgc 60
gaactggcca gcggccagtt ggagcgcgcc ggcgacaacg ctgcgaaggc ctccctgaag 120
ctggaggacg gtagccaata cccgctggaa ggccgcctcg aattctccga ggtttccgtc 180
gacgaaggca ccggctcggc caccatccgc gccgtgttcc ccaaccgaa caacgagctg 240
ctgcccggca tgttcgttca cgcgcagttg caggaaggcg tcaagcagaa ggccatcctc 300
gctccgcagc aaggcgtgac ccgcgacctc aagggccagg ctaccgcgct ggtggtgaac 360
gcgcagaaca aggtcgagct gcgggtgatc aaggccgacc gggatgatcg cgacaagtgg 420
ctggtcaccg aaggcctgaa cgcgcgcgac aagatcatta ccgaaggcct gcagttcgtg 480
cagccgggtg tcgaggtgaa gac 503

<210> 890
<211> 503
<212> DNA
<213> *Proteus mirabilis*

<400> 890
tgtcatcata gctcttaaca taatcgcggc tcttcttaaa tcaaggttgg caggaagttg 60
ttttttttcg atacagcgag ataaagattg ctctattcta gagtaatcg ctgcacataa 120
ttctcggcgg atttcaacaa ttggtgtcat ttcaccaaca aattcgact tatggaaata 180
tatttctaga agtgcattat gtttcggatc ttcgacaatt gatgtcaata tgtaaataag 240
caattctctt aatacaaata gtggatcatc tggatatttt gattgatact ctaattctaa 300
tgattctatt ttaagtcgg tgagttcaca cgcttcagta aataaatcca ctttattctt 360
aaagtgccaa tatattgcac ctgcagttac tccggcctcg gttgcaatat ctgaaagtga 420
tgtggcagaa acaccttgca cagtaaatag cctaagtgca gcatcaataa tctgctgtct 480
tgtctcttgt gcttggcggt tag 503

<210> 891
<211> 343

<212> DNA

<213> *Enterococcus faecalis*

<400> 891

gaccaggagt tggtaggtttt attgcttatt taggaattcg cgctccattt tttgcggccg	60
catttttagc gtttattggt tttattttga cattaactgt tttgaaggag ccagagaaac	120
gaatttttagc cgctgttgaa gcgaaaaaag gttcatttat ggatatttta agaaatccaa	180
tgtttacctc attatttggtg attatcttaa tttcctcttt tggcctgcaa gcgttcgaat	240
ctatttatag tattatggcg accattaatt ttggctttac cacaagtga atagcaatcg	300
tgattacggt tagtggtatt ttagcgttga tttgtcagct gtt	343

<210> 892

<211> 544

<212> DNA

<213> *Proteus mirabilis*

<400> 892

ctggctctgt tagtgctttc aggcagcttg gttggtgctg gatgtggcga caaaaatcag	60
tctgctggag gtccacctcc tgctcctgct gtaggtgttg ttacattaga tgcgaaacca	120
ctgactatca caacagactt acctggctgt acatctgctt atcgtatcgc agaggttcgc	180
cctcagggttg gcggcatcat cttaaaacgc aattacaccg aaggtagtta tgtagaagca	240
ggaacatctt tataccaaat cgatcctgct atttttcaag ctacattaaa cagtgtctca	300
gctgatttag caaaagcgaa agcgaatgct gaaattgctc gtctgactgt agagcgctat	360
aaacctctac tcggcaccaa ttatgtcagt aaacaagatt ttgataccgc aacatctcag	420
tacgctcaag ctgttgctgc agtaaaagca gctgaagcta cagtgactaa tgcaaaaatt	480
aatcttgaat ataccaaagt caccgcacca atttctggcc gttcaggtaa atcaacggta	540
acag	544

<210> 893

<211> 573

<212> DNA

<213> *Proteus vulgaris*

<400> 893

cctgaaatcc actactgacc ggctccagcc gctgacctta gatacctgcc agcaagctaa	60
ccccgaactg accgcccgcg cagcgttttag catgaatgtc cgaacgtttg tgctggtgaa	120
agataaaaaa acattctggt catctgcgac cggtagagatg gacattccac tcaatgaatt	180

gattccggcg ctcgacatta ataaaaacgt cgatatggcg atcttaccog gcacgccgat 240
 ggtgccgaac aaaccgcga tgcgtcatctg gtatcgcaac cctttgctga aaaatagcgg 300
 cgtctttgcc gctctgaatc tcaacctgac gccttcactc ttttatagtt cacggcagga 360
 agattacgat ggcgtcgccc tcattattgg caatactgcg ctatctacct tttcttcacg 420
 tttgatgaac gttaacgaat taaccgacat gccagtccgt gaaactaaaa ttgcgggcat 480
 tcctctgacc gttcggcttt atgcagatga ctggacatgg aacgatgtgt ggtacgcatt 540
 tttactgggc ggcatgagtg gaactgtcgt tgg 573

<210> 894
 <211> 581
 <212> DNA
 <213> Streptococcus mutans

<400> 894
 gaaatgatat tgacgggact ttcataaaaa ttttcaagga cttgaggtgt aataatatct 60
 tttttaggac cttgagccac tattttacct ctacgaagga ggaggatatg actcatttta 120
 tcagtgattht cttcagcatg gtgggtaaca taaaggatag ttggagcatg tggttaactca 180
 gtaatctttt caacttgtgt tagcaatttt tcacgggcaa aaagatccag tccgctgggt 240
 gcttcatcca aaataatgat ttcaggatct tccataaggc tgcgcgcaat aaggaggagt 300
 tgtttttcac cttgtgagag gctgctatag atgcgaccaa gcaagtgttt tccgccgatg 360
 acagtaagca tttggcgtgc ttcattaagt tctgtttcgt cgtattcctt gtagagaatg 420
 cttgatthgt atttaccagt tagcacgac ttttcagcca acatatttgc agggagtgcg 480
 tcagcaataa aagagccac gacaccgatt ttagtccgca tattgggaat atcacctga 540
 ccaaacctag tattgagaat ttcaacctgt cttgtgttg a 581

<210> 895
 <211> 281
 <212> DNA
 <213> Escherichia coli

<400> 895
 aaggctggct ttttcttggt atcgcaatag ttggcgaagt aatcgcaaca tccgcattaa 60
 aatctagcga gggctttact aagcttgccc cttccgccgt tgcataatc ggttatggca 120
 tcgcatthta ttttctttct ctggttctga aatccatccc tgcggtgtt gcttatgcag 180
 tctggtcggg actcggcgtc gtcataatta cagccattgc ctggttgctt catgggcaaa 240

agcttgatgc gtggggcttt gtaggtatgg ggctcataat t 281

<210> 896
<211> 609
<212> DNA
<213> *Staphylococcus aureus*

<400> 896
attagaaatt gcgactggcg caatcactgc aggtacatta attgcaatga tattttatgt 60
tattcagtta tctatgcctt taatcaatct ttccacgtta gttacagatt ataaaaaggc 120
agtcggtgca agtagtagaa tatacgaaat catgcaagaa cctattgaac cgacagaagc 180
tcttgaagat tctgaaaatg tattaattga tgacggtgta ttgtcatttg aacatgtaga 240
ctttaaatat gatgtgaaga aaatattaga tgatgtgtcg ttccaaatcc cacaaggtea 300
agtgagtgct tttgtaggcc cttctgggtc tggtaaaagt acgatattta atctgataga 360
acgtatgtat gaaattgagt caggtgatat taaatatggc cttgaaagtg tctatgatat 420
cccgttatct aagtggcgac gcaaaattgg atatgttatg caatcaaatt cgatgatgag 480
tggtaacaatt agagacaata ttttatacgg aattaatcgt catgtttcag atgaagaact 540
tattaattat gctaaattag cgaactgtca tgattttatc atgcaatttg atgaaggata 600
tgacacgct 609

<210> 897
<211> 274
<212> DNA
<213> *Staphylococcus aureus*

<400> 897
ttggatagtt caacaaaaac attaacagaa gataaacagg ttaccgtgt ggagggtttc 60
tcgtgtgcga attgtgctgg gaagtttgaa aaaaatgtaa aagaactatc aggggtgcat 120
gatgctaaag tcaatttcgg agcttccaaa attgatgtct ttggcagtgc aaccgttgaa 180
gatctggaag aggctgggtc tttcgagaat cttaaagtgg caccagagaa ggctagaaga 240
agggtcgaac cagtggtaac agaagataaa aatg 274

<210> 898
<211> 532
<212> DNA
<213> *Klebsiella oxytoca*

<400> 898
tgagcagcgt aaccagacat ggctggagtt ggtgggggaa gcgcagcagc tcatgggcga 60

acgctgcccc gcagatgagc cgcgggcgat tgcgctggca acccgctgga tggagcagct 120
ggagcaggat accgccggca ggccggagtt tctgactcgc ctgaatgaga tgcacgccgc 180
cgaaccgcag atgctgtaac aaactggggt gacgccggag atgattgatt tcattaccgc 240
tgcttttgcc gaaagcaagc tggccatctg ggcgcgctat ctgaacgccg aagagctggc 300
ctttaccgcg cagcactatt tcgatcgctt gatggagtgg ccggcgctgg tggccgacct 360
gcatcgggcc tgcctgtgaga agcgagaccc ggcctccccg gaaggtcagc agctggcgca 420
gcgctggctg gcgctgttcc agtcttacgc gggtaaagat gcgcagacgc agcagaagtt 480
tcgctatgcc atggagcagg agccgcattt gatgaaagga acgtggatga ct 532

<210> 899
<211> 500
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 899
atgaaaaacc ctcatcaaaa actttcatca tcaccattag cagtgggtgcg cagtattgcc 60
actcactgga gtattattct gcagatggct aaacgtgatg ttgttgaag atataaaggt 120
tctgtgatgg gcctgctttg gtcttttttg aaccctttat ttatgttaac agtatatact 180
tttgtcttct ccgtgggtatt caaagccaga tggtaactg gtggggacga aagtaggaca 240
cagtttgcta taattttatt tgcgcgaatg atagttcatg gttttttaag tgaagtggta 300
aataaagcgc cgttgattat tttgggaaat acaactatg tgaagaaagt tatatttcca 360
ttggaaacgc tgctgttat ctctttatct gcggcattat ttcatacttg tatcagcctt 420
tgtgtgttac tgatggcggt tttcattttt aatggatatt tacattggac catagtgttt 480
ttacctttgg tctttttccc 500

<210> 900
<211> 370
<212> DNA
<213> *Enterococcus faecium*

<400> 900
agaacatata cgcaaacaag gagaaggaat ccttctctct ccgaaagtaa gctttcaagt 60
atatcagcaa aagggttata aaatgacatc tgaagaatcc atcattcggt ttgtcatgag 120
acaaacagag ttttcagaat cgcttgctcg tagtttgctg aatcacttag gggttgctca 180
ggaaactctg acgaaaccgt tatgtacatt aagtggggga gaagcgaccc gtctgacgat 240

tgcttttgctt ttactaagc caagtaatgt gttgctgtta gatgaaccga ctaattttat 300
tgatatggca acgatcgaag ctttagagaa gctaatagcaa atatatccgg gaacgatttt 360
gtttacatca 370

<210> 901
<211> 400
<212> DNA
<213> *Escherichia coli*

<400> 901
aaccgtttat acgttggtga gttggttggc cattctggga tactggttgc tcattgcagg 60
cgtaacttta cgcattctaa tgaaacgacg cgcagttccc tccgcgatgg cctggctggt 120
gattatttac attctgccgt tagtcggaat tattgcctat cttgccgttg gcgagctcca 180
tttaggcaaa cgccgcgctg agcgcgccag agcgatgtgg ccttccaccg caaaatggct 240
taacgacctt aaagcctgta agcatatctt cgccgaagaa aatagcagtg tcgctgcgcc 300
attattcaag ctttgcgagc gtcgtcaggg gatcgtctggg gtcaaaggga atcagctaca 360
actgatgacc gagtcagatg atgtgatgca ggcgttaatc 400

<210> 902
<211> 540
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 902
atgttctcgc tgcagttctg gcctatgaga aagggatgat cctggccaac gataaaccag 60
agcctacaaa acttgcagag aaccgctctt ctgaaacttg cagtttggaa gacctcaaaa 120
gcattcagtt acatactgct aatgaagaaa ttggggaaaa acgttttggt actgcgcgtg 180
ctattattaa aaatcttacc atctacaaat cagatgggtac gactttgaca gagaaaccac 240
tcatcaaatc aggtgaagaa gttacatttg atttcacatc attagctacc gaagagatta 300
aggatgttgc tcttggcctt tccatatcca aagctcaggg aggggatatt tggggagata 360
gtaatatggg cgcaggttca ccaattacac ttcgtccagg tagtcagcgt atcgtttata 420
aagcaacgct gcctataaat tcgggcgatt acctaatata ctgcggcctc gctatggttg 480
gcaacgggtg tcgagaggag cttgatcaac gtcgcccgat gatgaaaata aagttttggt 540

<210> 903
<211> 770

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 903

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ataaagcaat gaagcctaaa gttatcgctt ctattgtatt atttaatcat tcctatgatg      60
atattaaaga tacgttcctc tcattatgcc atgaagagag cgttgaaaaa ataatcttcg      120
ttgataatgg tggttgtcag tgggcggcat cattgaatga acctaagggtg agctacatca      180
agtctcctta caactgtggt tttggtgctg gacataatct tgcaataaaa gcaagtgcag      240
actttgacgg ttatcttctt atatgtaatc cggatataag ctttgataag cagtcacttg      300
ataaattagtt ttcgtttgcg tgggaaaatg agtatagttt tttgttttcc ccgcaaataa      360
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taagacgttt ctttccagtg actgcaataa agtacgatgt taaatatgaa ctgaaagatg      480
cagcctatga tgagatatct tccccaccaa cggtagtggt ctgtttcatg ttattaagta      540
atgtattatt gcaaaaactt aacggttttg atgaacgata ctttatgtat ctggaagatg      600
tagatttatg tcgccgagca ttacagctaa ccaaaatata ctattatcct ggaacaacta      660
ttgtccatgc ctttaataaa ggttcgtata aaagcaaatt attactttgg taccatattc      720
gctccgcagt ttcctatctt aataaatggg gatggttcct tgatcgtaaa      770

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<210> 904

<211> 614

<212> DNA

<213> *Staphylococcus aureus*

<400> 904

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ggttacttgt tgctgctttt gcgttatctc aaatgattat atcgccgttt ggtggtacgc      60
tagctgacaa attaggaag aaattaatta tatgtatagg gttaatttta ttctcagtgt      120
cagaatttat gtttgagttt ggccacaatt tttcgggtatt gatgttatcg agagtgattg      180
gtggtatgag tgctggtatg gtaatgccgg gtgtgacagg tttgattgca gatgtttcac      240
caagccatca aaaagcaaaa aactttggct acatgtcagc gattatcaat tctggattca      300
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ttgcagggtgc attaggcatt ttagctttca taatgtcagt tgtattgatt catgatccga      420
aaaagtctac gacaagcggc ttccaaaaac ttgagcccca attattaaca aaaattaatt      480
ggaaagtctt tattacgcca gcaattttta cgctcgtctt agcgttcggt ttatcggcat      540
ttgaaacact gtattcttta tatacatcgt ataaagtaaa ttattcacct aaagatattt      600

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cgattgcgat tacg 614

<210> 905
<211> 411
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 905
gaactacccc gtgaatcccg acctgatgcc cgcgctgatg gcggtcttcc agcatgtgcg 60
gacgcgcata cagagcgagc tcgattgcca gcgactcgac ctgaccccg cgcacgtcca 120
tgtattgaag cttatcgacg aacaacgcgg gctgaacctg caggacctgg gacgccagat 180
gtgccgcgac aaggcactga tcacccggaa gatccgcgag ctggagggaa gaaacctggt 240
ccgccgcgag cgcaacccca gcgaccagcg cagcttcag ctcttcctca ccgacgaggg 300
gctggccatc caccagcatg cggaggccat catgtcacgc gtgcatgacg agttgtttgc 360
cccgtcacc ccggtggaac aggccaccct ggtgcatttc ctgaccagt g 411

<210> 906
<211> 401
<212> DNA
<213> *Escherichia coli*

<400> 906
gcaaggaccg ttctatcatg gaaccaaagc caatttggcg attggtgact tgctaaccac 60
agggttcata tctcatttcg aggacggtcg tattcttaag cacatctact tttcagcctt 120
gatggagcca gcagtttggg gagctgaact tgctatgtca ctgtctggcc tcgagggtcg 180
cggctacata tacatagttg agccaacagg accgttcgaa gacgatccga atcttacgaa 240
caaaaaattt cccggtaatc caacacagtc ctatagaacc tgcgaaccct tgagaattgt 300
tggcgttggt gaagactggg aggggcatcc tgttgaatta ataaggggaa tgttggatto 360
gttagaggac ttaaagcgcc gtggtttaca cgtcattgaa g 401

<210> 907
<211> 742
<212> DNA
<213> *Staphylococcus aureus*

<400> 907
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gttagaaaat ataaacatta aaataaataa aggtgaattt ttagcaattg ttggaccaa 120

tgggtgctggt aaatcaacat tattgaagtt gattctaggg ttattacctt tacaaagtgg 180
 tgagattttt gttggaggta ttgattttta aaataagaaa acatccatta aattaagcta 240
 tgtatcacia aaagcaaatg cctttaattc aggtttccca gcaagtgtta aagaagttgt 300
 ttttaagcga ttaacaaaga caaacgtct tttccaaaca tttaatagca aagataatga 360
 aaaagtgatt aaagtactag aaagactgaa tataagtgat ttaattcata aaaatatagc 420
 agaattatca ggtggtcaac aacaacgtgt aatgattgct cgagcattga tttcagaacc 480
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 ttataatact ttagatcaat taaaacaaga aggtatcacc attatcttag ttactcatga 600
 tatcggtggt gtagcagata ctgctactga agtagcatgt ttaaataagc atttgcatgt 660
 ccatggtaca actgatgagt ttaaatcact tgatgaagtt gaaatttcaa aaatttatgg 720
 acatcctgta cgttttgtcg at 742

<210> 908
 <211> 352
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 908
 tagcaacctc cctttgatac aagaaagctt tttctacaag ctgtttaaca tgctcatcat 60
 ctagtgaata atagactact tttccttctt tacggatatt tgctatacct aaatttttca 120
 ataacttta atgatgggat gccgtagccg ttgaagattc aatgatatta gctacatcac 180
 aaacacataa ctctccctct aaagacaaaa cataagcaat ttttaactct gtatcatctg 240
 atagagcctt aaaaactttc gctacatcca taggattctg ttttagcaagg tcttttttag 300
 ccctgtttac cttatcttca tgaatatagg taacttcaca catatctttt gt 352

<210> 909
 <211> 583
 <212> DNA
 <213> *Enterococcus faecalis*

<400> 909
 gcgtagaacg tggacttgat ccattgaaga caatgcttgt ggtcatgagc aattctgaaa 60
 attcaggtgg cctggtactc gctgcttccc ctatggcaaa aaaagtatta ggtatttcca 120
 atgttacaag gaaaaatgaa gttccggacc acccaaacct aattattgta cctccacgca 180
 tgaaattata catgaagaaa aatcaagaaa ttaacaattt atataaccgc tttgtttcta 240

atgaagatca ttctgtattc agtgtcgatg aatcgtttct tgatgtgact gcttcgctga 300
 cctattttta gtgtgacacc gcctataaac tggccaagat tattcaacgt gtgatttata 360
 accatatggg attgtatgta acaatcgga ttggggaaaa tccgttgctg gccaaagttag 420
 cattggataa tgaagcaaag aatgcaccag gctttgtggc tgaatggcgc tatgaagatg 480
 tgccagaaaa agtttggcca atctcccctc ttacagaatt ttgtgggata ggaaatcgca 540
 tggctgctcg cttaaaaaag ctaggtattc ggtccattta tga 583

<210> 910
 <211> 231
 <212> DNA
 <213> Candida albicans

<400> 910
 atggcttggt ctgctgctca atgtgtctgt gctcaaaaat ccacttggtc atgtggtaaa 60
 caaccagctt taaaatgtaa ttgttctaaa gcttcagtag aaaaatgttg tccatcatca 120
 aatgatgctt gtgcttggtg aaaaagaaat aaatcaagtt gtacttggtg tgctaagtct 180
 atttgtgatg gtactagaga tggtgaaact gatttcacta acttgaaata a 231

<210> 911
 <211> 240
 <212> DNA
 <213> Candida albicans

<400> 911
 ctaagatgtc gtcgcaagat gaatctaaat tagaaaaggc aattagtcaa gactcttcct 60
 cagaaaacca ttccattaat gaataccacg ggtttgatgc ccatacaagt gaaaacattc 120
 agaatttagc cagaactttc actcatgatt ctttcaaaga tgactogtca gcaggtttat 180
 tgaaatactt aacctatag tcagaagtgc ccggggtaa tccatatgaa catgaagaaa 240

<210> 912
 <211> 513
 <212> DNA
 <213> Candida albicans

<400> 912
 gctgaattat ctaaattacc aagagataat gatccagaag cacttttgaa atatgctgca 60
 ccactttgga aacaatactt attggtcagt tggagaacta ttgttcaaga ttggagatca 120
 ccaggatata tttattctaa aatctttttg gttgtttcag cagcattatt taatggattt 180
 tcatttttca aagctaaaaa caacatgcaa ggtttacaaa atcaaagtgt ttcggtgttt 240

atgtttttca ttccatttaa tacttttggtg caacaaatgt taccatactt tgtgaagcaa 300
 cgtgatgttt atgaagtgag agaagctcca tcaagaacat tcagttgggtt tgcattttatt 360
 gccggtcaaa ttacatcaga aattccttat caagttgccg ttggtaccat agcatttttc 420
 tgttggtatt atccattagg attgtataat aatgctacac caactgattc tgtcaatcct 480
 cgaggtgttt taatgtggat gcttgttact gca 513

<210> 913
 <211> 609
 <212> DNA
 <213> Candida albicans

<400> 913
 ggtggtaaat taagagattt ggtcatccgt gatgctccac tcaaacaaca attattgcaa 60
 gaagctaaaa ctttacctgc tttgacgtta actgctagac aattatgtga tttagaatta 120
 attttaaacg gagggttttc tccattaact ggattcttaa atcaagaaga ttataatagt 180
 gttgttaacg atttaagatt aagtagtggt aagaatgaat caaatggtaa aggtttatta 240
 tggccaatcc caatcacctt agatgttgat gagaccactt ctaaaaaaca ttctgttggt 300
 gatagaattg tattaataga tttgagagat gaaactccat tggccatttt aactattgaa 360
 tctatttata aacctgataa aaaattagaa gcaaaaaaag tgttccgtgg tgatccagaa 420
 catcctgcta ataaatatat attagaaacc gctggcgatt attatatcgg tgggtgaatta 480
 caagggatca attatcctaa acattatgat tatgttgatg ctagaaaaac accaactgaa 540
 ttgagacaag aatttgaaaa attgggttgg gctcaagaaa atattgttgc ctttcaaacc 600
 agaaatcct 609

<210> 914
 <211> 528
 <212> DNA
 <213> Candida albicans

<400> 914
 tcatggatta tttgttcgtg gtgctaacca aatggatggg ccagagatgg ttaccagtg 60
 tcctatccca cctggtgaaa catacttgta caacttcaact gttactgata aagtgggaac 120
 ttattggtat catagccata cagggggtca gtatggagac ggtatgagag gtgtctttat 180
 tattgaagat gatgatctcc cgtatcacta cgatgaagaa gttgttttaa ctttaagtga 240
 ccattaccac aaatattcag gtgacatagg gcctgccttt ttaaccagat ttaatccgac 300

aggagcagaa ccgatccctc agaacttttt gttcaatgaa acaagaaatg ccacttggaa 360
ggtcgaacct ggaaaaactt actttgttag gattcttaat gttggtgggt ttgtatcaca 420
gtacttgttg atggaagatc atgaatttac tattgttgag atcgatggcg tttacgttga 480
aaaaaacacc actgatttga tttatatcac agttgctcaa agatatgg 528

<210> 915
<211> 585
<212> DNA
<213> Candida albicans

<400> 915
aaacggtcca gagttgaaga aaaagttgta tcgtcagatt tggctagggg cggggctagg 60
tgttcttatt tgtataatca ttggtggcgc ttttattggt accttttacg ggttgggtaa 120
agatatctgg ggaaaatcag aagacttggt ggaagggata ttttgtatca ttgccacagt 180
cttgatcact gctatgggta ttccaatggt gagaatcaac aagatgaaag aaaaatggag 240
agttaaatta gcacaagctt taatcaaato tccagaaaat aagaagaacc gattcaaatt 300
gggatatctt gggaaaaagt acgcactttt tattttgcca ttcactactt gcttgctga 360
aggtttagaa gctgttgttt tcgttgggtg ggtcgggtatt actagtcctg cttcatcttt 420
cccaatccca gttattgttg gtataatttg tgggtcttga gtgggtgcct tgttgtacta 480
ctttggttcc aatatgtcga tgcaaatctt cttgatcatc tccacttgta tcttgtactt 540
gatcgtgct ggtttgttct ccagaggtgt ctggttcttt gagag 585

<210> 916
<211> 560
<212> DNA
<213> Candida albicans

<400> 916
tgttattggt tatggtgttg gccattggt tttcagtcg atgtcagaaa atgctatatt 60
tggtcgtaca tccatatata tcataacatt atttttattt gtcatactac aaatccccac 120
tgctttggta aataatattg ccggtttatg tatattgaga ttcttgggtg gattctttgc 180
tagtccttgt ttggccactg gtggtgctag tggtgctgat gtggttaaatt tttggaattt 240
accagttggg ttagccgctt ggagtttggg tgctgttgt ggtcctagtt ttggtccatt 300
ctttggttca attttaactg tcaaagccag ttggagatgg actttttggt tcatgtgtat 360
tatttctggg ttttcatttg ttatgttggt tttcacttta cctgaaactt ttggcaaaac 420

attattgtat cgcaaggcta aaagattgag agccatcacc ggtaacgaca gaatcacaag 480
 tgaaggagaa attgaaaata gcaaaatgac aagtcatgaa ttgatcattg atacattatg 540
 gagaccatta gaaatcaccg 560

<210> 917
 <211> 574
 <212> DNA
 <213> Candida albicans

<400> 917
 attccttggg ttggttctgc agcttcatat ggtcaacaac cttatgaatt ttctgaatca 60
 tgtcgtcaaa agtatggtga tgtattttca tttatgttat tagggaaaat tatgacgggt 120
 tatttaggtc caaaagggtc tgaatttggt ttcaatgcta aattatctga tgtttctgct 180
 gaagatgctt ataaacatct aactactcca gttttcggta aaggggttat ttatgattgt 240
 ccaaattcta gattaatgga acaaaaaaaaaa tttgctaaat ttgctttgac tactgattca 300
 tttaaaagat atgttcctaa gattagagaa gaaattttga attattttgt tactgatgaa 360
 agtttcaaat tgaaagaaaa aactcacggg gttgccaatg ttatgaaaac tcaaccagaa 420
 attactatct tcaactgctc aagatcttta tttgggtgatg aaatgagaag aatttttgac 480
 cgttcatttg ctcaattata ttctgattta gataaagggt ttacccttat taattttggt 540
 ttccctaatt tacctttacc tcattattgg agac 574

<210> 918
 <211> 647
 <212> DNA
 <213> Candida albicans

<400> 918
 gctctttgct tcaattatcc gaagctgaag atgaatctgt ctacaaggcc agctttgatg 60
 acaccgtgca agaaattgat ctgttattga ttgctttcaa agacctcctt agacttttac 120
 gacccaaaga taaatccaac aaattcgata catacgaatt gaaatttcat tctttgaagc 180
 acaaattgctg tgagttgcaa gtatttatta atgatcaaca acaagacaag ttgcatgaat 240
 ataggataaa gcattttccat ctacaagatc tgccgtgtgga taccatcaat aacgaatttg 300
 ctcgagacca attatttgct gatcgttcca ctaagaagac taagaaagaa atggaagcat 360
 ctataaatca acaaattgtc agccaaaata acaaaataac aaaatccttg caagcatcga 420
 gacaattggt atcagcaggt atattgcaga gtgaattgaa cattgacaac attgatcagc 480

aaaccaagga tttatacaag ttaaatgaag gatttatcca attcaacgat ttgttaaata 540
gatctaagaa aattgtcaag tttattgaaa agcaagataa agctgaccgt caacgtatat 600
atttgagtat ggggttcttc atactttggt gttcttgggt ggtttat 647

<210> 919
<211> 552
<212> DNA
<213> Glycine max

<400> 919
atccaagttg aaagagataa attgaacaag tatggtcgtc ccctattagg atgtactatt 60
aaacctaaat tgggggttatc cgctaagaat tatggtagag ctgtttatga atgtcttcgt 120
gggtgacttg attttacc aaagatgatgaa aatgtgaatt cccaaccatt tatgcgttgg 180
agagaccgtt tcttattttg tgccgaagcc atttttaaat cacaggctga aacaggtgaa 240
atcaaagggc attacttgaa tgcaactgcg ggtacatgcg aagaaatgat gaaaagagct 300
gtatttgcca gagaattagg cgttcctatc gtaatgcatg attatttaac agggggattc 360
actgcaaata ctagcttagc tcattattgc cgagataatg gtctacttct tcatatacac 420
cgtgcaatgc atgcagttat cgacagacaa aagaatcatg gtatgcactt tcgtgtacta 480
gctaaagcat tacgtttgtc tgggtggagat catgttcacg ccggtaccgt agtaggtaaa 540
cttgaagggg aa 552

<210> 920
<211> 358
<212> DNA
<213> Homo sapiens

<400> 920
gctcaagggg caaatgcagc atgtacagca ttggcagtgg tgcctcagag gtggcagaac 60
tatttcacac aaaccagttt aggactacac aaattagtag catccagcat caggatatag 120
ctgtggattt tacaaccat tcctatttct aacttcagga attgatgttt ttcccagtcc 180
atcttaaaat attactgctt taatcacaga tcagataaaa aggatatcag gcacaacctc 240
caactaaagt cctgtttag catagacagt gaaatgctat gacatcagaa gactttaaaa 300
ttgcagctct tttcggatcc cccaaagtgt gtctgcacgc ttcttcaaac gggcctct 358

<210> 921
<211> 271

<212> DNA
 <213> Homo sapiens

<400> 921
 cggagtcaac ggatttggtc gtattggatg cctggtcacc agggttgctt ttaactctgg 60
 aaaagtggat attgtcgcca tcaatgaccg cttcattgac ctcaactaca tggctctacat 120
 gttccagtag gattttacct atggcaaatt ccatgcaccg taaaggctga gaatgggaag 180
 cttgtcatca gtggaaatcc cattaccatc ttccaggagc gagatccctc caaaatcaaa 240
 tggggcaatg ctgacgctga gtacgttggtg g 271

<210> 922
 <211> 239
 <212> DNA
 <213> Homo sapiens

<400> 922
 atggataatg atatcgccac gctcgtcatg gacaatggct ctcccatgtg caaggccagc 60
 ttagcaggcg acgatgcccc tccatcgtga ggcacccatg gcaccagggc atgatcgtgg 120
 gcatgggtca gaagaagtcc tacgtggaca atgaggccca gggcaagaga agcatcctga 180
 ccctgaaata ccctatcgag catggcattg tcaccaatgg agaagatctg gcaccacac 239

<210> 923
 <211> 365
 <212> DNA
 <213> Homo sapiens

<400> 923
 gccaaattgc caaaactcaa gtcacctcag taccatccag gaggtgggt attgtcctgc 60
 ctctgccttt tctgtctcag cgggcagtgc ccagagccca cccccccca agagccctcg 120
 atggacagcc tcaccacccc cacctgggccc cagccaggag ccccgccctgg ccatcagtat 180
 ttattgcctc cgtccgtgcc gtccctgggc cactggcctg gcgcctgttc ccccaggctc 240
 tcagtgccac ccccccggc aggccttccc tgaccagccc aggaacaaac aagggaacaa 300
 gtgcacacat tgctgagagc cgtctcctgt gcctcccccg ccccatcccc ggtcttcgtg 360
 ttgtg 365

<210> 924
 <211> 342
 <212> DNA
 <213> Homo sapiens

<400> 924
 caccctggat ttgcatacat tcttcaagat cccatttgaa ttttttagtg actaaacat 60
 tgtgcattct agagtgcata tatttatatt ttgcctgtta aaaagaaagt gagcagtgtt 120
 agcttagttc tcttttgatg taggttatta tgattagctt tgtcactgtt tcactactca 180
 gcatggaaac aagatgaaat tccatttgta ggtagtgaga caaaattgat gatccattaa 240
 gtaacaata aaagtgtcca ttgaaaccgt gatttttttt ttttccctgt catactttgt 300
 taggaagggt gagaatagaa tcttgaggaa cggatcagat gt 342

<210> 925
 <211> 552
 <212> DNA
 <213> Glycine max

<400> 925
 atccaagttg aaagagataa attgaacaag tatggtcgtc ccctattagg atgtactatt 60
 aaacctaaat tggggttatc cgctaagaat tatggtagag ctgtttatga atgtcttcgt 120
 ggtggacttg attttaccac agatgatgaa aatgtgaatt cccaaccatt tatgcgttgg 180
 agagaccgtt tcttattttg tgccgaagcc atttttaaat cacaggctga aacaggtgaa 240
 atcaaagggc attacttgaa tgcaactgcg ggtacatgcg aagaaatgat gaaaagagct 300
 gtatttgcca gagaattagg cgttcctatc gtaatgcatg attatttaac agggggattc 360
 actgcaaata ctagcttagc tcattattgc cgagataatg gtctacttct tcatatacac 420
 cgtgcaatgc atgcagttat cgacagacaa aagaatcatg gtatgcactt tcgtgtacta 480
 gctaaagcat tacgtttgtc tgggtggagat catgttcacg ccggtaccgt agtaggtaaa 540
 cttgaagggg aa 552

<210> 926
 <211> 286
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 926
 caggcctaac acatgcaagt cgagcggatg aaggagctt gtcctggat tcagcgcgcg 60
 acgggtgagt aatgcctagg aatctgcctg gtagtggggg ataacgtccg gaaacgggcg 120
 ctaataccgc atacgtcctg agggagaaag tgggggatct tcggacctca cgctatcaga 180
 tgagcctagg tcggattagc tagttggtgg ggtaaaggcc taccaaggcg acgatccgta 240
 actggtctga gaggatgatc agtcacactg gaactgagac acggtc 286

<210> 927
<211> 643
<212> DNA
<213> *Enterococcus faecium*

<400> 927
aggataggta ggagccgtag aaatcggaac gctagtttcg atggaggcgc tgggtgggata 60
ctaccctgc gttatggcca ctctaaccg caccactaat cgtgggtggga gacagtgtca 120
gatgggcagt ttgactgggg cggtcgctc ctaaaaggta acggaggcgc ccaaaggttc 180
cctcagaatg gttggaaatc attcgaagag tgtaaaggca gaaggagct tgactgcgag 240
accaacaagt cgagcaggga cgaaagtcg gcttagtgat ccggtgggtc cgcattggaag 300
ggccatcgct caacggataa aagctaccct ggggataaca ggcttatctc cccaagagt 360
ccacatcgac ggggagggtt ggcacctga tgcggtctg tcgcatcctg gggctgtagt 420
cgtgccaag ggttgggtg ttgcccatt aaagcggcac gcgagctggg ttcagaacgt 480
cgtgagacag ttggtccct atccgtcgc ggcgttgga atttgagagg agctgtcctt 540
agtacgagag gaccgggatg gacttacgc tgggtgtacca gttgttctgc caagggtttt 600
gctgggtagc tatgtaggga agggataaac gctgaaagca tct 643

<210> 928
<211> 245
<212> DNA
<213> *Streptococcus pyogenes*

<400> 928
gcgtgagtga aagaagggtt tcggatcgta aagctctgtt gttagagaag aatgatggtg 60
ggagtggaaa atccaccaag tgacggtaac taaccagaaa gggacggcta actacgtgcc 120
agcagccgcg gtaatacgta ggtcccagc gttgtccgga tttattgggc gtaaagcgag 180
cgcaggcggg tttttaagtc tgaagttaa ggcattggct caaccaatgt acgctttgga 240
aactg 245

<210> 929
<211> 240
<212> DNA
<213> *Streptococcus pneumoniae*

<400> 929
ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag ggaatcttcg 60

gcaatggacg gaagtctgac cgagcaacgc cgcgtagtg aagaaggttt tcggatcgta 120
aagctctgtt gtaagagaag aacgagtggt agagtggaaa gttcacactg tgacggtatc 180
ttaccagaaa gggacggcta actacgtgcc agcagccgcg gtaatacgta ggtcccgcgc 240

<210> 930
<211> 242
<212> DNA
<213> Streptococcus agalactiae

<400> 930
cacggcccag actcctacgg gaggcagcag tagggaatct tcggcaatgg acggaagtct 60
gaccgagcaa cgccgcgtga gtgaagaagg ttttcggatc gtaaagctct gttgtagag 120
aagaacgttg gtaggagtg aaaatctacc aagtgcggt aactaaccag aaagggacgg 180
ctaactacgt gccagcagcc gcggaatac gtaggtccc agcgttgtcc ggatttattg 240
gg 242

<210> 931
<211> 250
<212> DNA
<213> Enterococcus faecium

<400> 931
gtgcattagc tagttggtga ggtaacggct caccaaggcc acgatgcata gccgcacctg 60
agaggggtgat cggccacatt gggactgaga cacggcccaa actctacggg aggcagcagt 120
agggaatctt cggcaatgga cgaaagtctg accgagcaac gccgcgtgag tgaagaaggt 180
tttcggatcg taaaactctg ttgtagaga agaacaagga tgagagtaac tgttcatccc 240
ttgacggtat 250

<210> 932
<211> 263
<212> DNA
<213> Enterococcus faecium

<400> 932
tgcctatata tgcaagtoga acgcttcttt ttccaccgga gcttgctcca ccgaaaaag 60
aggagtggcg aacgggtgag taacacgtgg gtaacctgcc catcagaaaag ggataaact 120
tggaacacag tgctaatacc gtataacaaa tcaaaaccgc atggttttga tttgaaaggc 180
gctttcgggt gtcgctgatg gatggaccgc cggtgcatta gctagtgggt gagtaacgg 240
ctcaccaagg ccacgatgca tag 263

<210> 933
<211> 267
<212> DNA
<213> *Enterococcus faecalis*

<400> 933
ggcgtgccta atacatgcaa gtcgaacgct tctttcctcc cgagtgcttg cactcaattg 60
gaaagaggag tggcggacgg gtgagtaaca cgtgggtaac ctacccatca gagggggata 120
acacttgga acaggtgcta ataccgata acagtttatg ccgcatggca taagagtga 180
aggcgcttcc ggggtgctgct gatggatgga cccgcggtgc attagctagt tggtgaggta 240
acggctcacc aaggcgacga tgcatag 267

<210> 934
<211> 200
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 934
caggcctaac acatgcaagt cgagcggtag cacagagagc ttgctctcgg gtgacgagcg 60
gcggacgggt gagtaatgtc tgggaaactg cctgatggag ggggataact actggaaacg 120
gtagctaata ccgcataatg tcgcaagacc aaagtggggg accttcgggc ctcatgccat 180
cagatgtgcc cagatgggat 200

<210> 935
<211> 635
<212> DNA
<213> *Staphylococcus aureus*

<400> 935
acacgggtcca gactcctacg ggaggcagca gtagggaatc ttccgcaatg ggcgaaagcc 60
tgacggagca acgccgcgtg agtgatgaag gtcttcggat cgtaaaactc tgttattagg 120
gaagaacata tgtgtaagta actgtgcaca tcttgacggt acctaatacag aaagccacgg 180
ctaactacgt gccagcagcc gcggtaatac gtaggtggca agcgttatcc ggaattattg 240
ggcgtaaagc gcgcgtaggc ggttttttaa gtctgatgtg aaagcccacg gctcaaccgt 300
ggaggggtcat tggaaactgg aaaacttgag tgcagaagag gaaagtggaa ttccatgtgt 360
agcggtgaaa tgcgcagaga tatggaggaa caccagtggc gaaggcgact ttctggtctg 420
taactgacgc tgatgtgcga aagcgtgggg atcaaacagg attagatacc ctggtagtcc 480

acgccgtaaa cgatgagtgc taagtgttag ggggtttccg ccccttagtg ctgcagctaa 540
 cgcatthaagc actccgcctg gggagtacga ccgcaagggt gaaactcaaa ggaattgacg 600
 gggaccgcga caagcgtgga gcatgtggtt taatt 635

<210> 936
 <211> 243
 <212> DNA
 <213> Enterococcus faecalis

<400> 936
 gcattagcta gttggtgagg taacggctca ccaaggcgac gatgcatagc cgacctgaga 60
 ggggtgatcgg ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag 120
 ggaatcttcg gcaatggacg aaagtctgac cgagcaacgc cgcgtgagtg aagaaggttt 180
 tcggatcgta aaactctgtt gttagagaag aacaaggacg ttagtaactg aacgtcccct 240
 gac 243

<210> 937
 <211> 274
 <212> DNA
 <213> Staphylococcus hominis

<400> 937
 cgtgcctaata acatgcaagt cgagcgaaca gacgaggagc ttgctccttt gacgttagcg 60
 gcggacgggt gagtaacacg taggtaacct acctataaga ctgggataac ttcgggaaac 120
 cggagctaata accggataat atttcgaacc gcatggttcg atagtgaag atggctttgc 180
 tatcacttat agatggacct gcgccgtatt agctagttgg taaggtaacg gcttaccaag 240
 gcaacgatac gtagccgacc tgagagggtg atcg 274

<210> 938
 <211> 200
 <212> DNA
 <213> Staphylococcus haemolyticus

<400> 938
 acacgtgggt aacctaccta taagactggg ataacttcgg gaaaccggag ctaataccgg 60
 ataatatattc gaaccgcatg gttcgatagt gaaagatggg tttgctatca cttatagatg 120
 gacccgcgcc gtattagcta gttggtaagg taacggctta ccaaggcgac gatacgtagc 180
 cgacctgaga gggatgatcgg 200

<210> 939
<211> 287
<212> DNA
<213> *Enterococcus faecium*

<400> 939
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ccaccgaatg actaaggttt cctggggaag gtcgtccgc ccagggttag tcgggaccta 180
agccgaggcc gacaggcgta ggcgatggat aacaggttga tattcctgta cccgttgttt 240
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cgggtggctaa taccgcataa tgtctacgga ccaaagcagg ggctcttcgg accttgcaact 180
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accttgaagg cattgcaata cattcatagt cttcatcgta ttcatagaga tataaagagt      360
gataatattt tattgggctc agagggtagt gtaaagattg ctgattttgg ttatgccgct      420
caattaactc aaaaacaaca aaaacgtaat accgtcgttg gtaccctta ttggatggcc      480
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tcctttatca gggttagaac acataattac aattgctttt aggtcagttt catttctcca      720
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<400> 2809
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<210> 2810
<211> 19
<212> DNA
<213> synthetic construct

<400> 2810
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<210> 2811
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<212> DNA
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<400> 2811
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<210> 2812
<211> 18
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<400> 2812
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<210> 2813
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<400> 2813
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<210> 2814
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<210> 2818
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<210> 2820
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<400> 2820
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<210> 2821
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<212> DNA
<213> synthetic construct

<400> 2821
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<210> 2822
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<400> 2823
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<210> 2824
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<400> 2824
cctttagggtg tattggtagg ag 22

<210> 2825
<211> 19
<212> DNA
<213> synthetic construct

<400> 2825
atcgtctgca ttccttagc 19

<210> 2826
<211> 18
<212> DNA
<213> synthetic construct

<400> 2826
caggcctaac acatgcaa 18

<210> 2827
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<212> DNA
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<400> 2827
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<210> 2828
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<400> 2828
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<210> 2829
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<212> DNA
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<400> 2829
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<210> 2830
<211> 19
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<400> 2830
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<210> 2831
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<400> 2831
tcaggctttc gccatt 17

<210> 2832
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<212> DNA
<213> synthetic construct

<400> 2832
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<210> 2833
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<212> DNA
<213> synthetic construct

<400> 2833
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<210> 2834
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<212> DNA
<213> synthetic construct

<400> 2834
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<210> 2835
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<212> DNA
<213> synthetic construct

<400> 2835

cccgagtatc tggaagacag 20

<210> 2836
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<213> synthetic construct

<400> 2836
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<210> 2837
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<212> DNA
<213> synthetic construct

<400> 2837
atatggtggc tcagattctg cc 22

<210> 2838
<211> 21
<212> DNA
<213> synthetic construct

<400> 2838
ccttagttat ctcggtgcc a g 21

<210> 2839
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<212> DNA
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<400> 2839
ggaagccaca ctgctacaca gg 22

<210> 2840
<211> 22
<212> DNA
<213> synthetic construct

<400> 2840
ccaccggttt aacttggaa cc 22

<210> 2841
<211> 22
<212> DNA
<213> synthetic construct

<400> 2841
aattgatggc acacgaccag tg 22

<210> 2842
 <211> 240
 <212> DNA
 <213> Streptococcus dysgalactiae

<400> 2842
 ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag ggaatcttcg 60
 gcaatggacg gaagtctgac cgagcaacgc cgcgtgagtg aagaagggtt tcg gatcgta 120
 aagctctgtt gttagagaag aatgatggtg ggagtggaaa atccaccatg tgacggtaac 180
 taaccagaaa gggacggcta actacgtgcc agcagccgcg gtaatacgta ggtcccgcgc 240

<210> 2843
 <211> 290
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2843
 ggtaccaagt atgatatgga tatggacaat aaattagcat atctgaatgc tgaaattcgc 60
 ccttgggggtg ctagcacgaa tccatgggct caagggttat atgtagctgc aggtgcagct 120
 tatgttgata accaatatga tttaacaaaa aatgtaggta caaacgcctc cgttgaaatt 180
 gatggaaacc gttttaatgg tgggtgctaac ggagtgcgca ttgccggtaa tttaaaatat 240
 gataatgata ttgctccata tattgggtttt gggtttgctc caaaattcag 290

<210> 2844
 <211> 536
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2844
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 gccattatg attttaacgt gtgttggggc ttttctgggt ttaactgaaa catcacgttc 120
 tgcaaaagcaa caacaattgc atcatgcctc agcgattttg gcacgctaca atcaaatgac 180
 taaagatctc tacacattag tagaactaca accagatgaa tatgatcatg ctcaacatat 240
 tatgcaaagt atgttttagc agaaaaatct aaagcgtgct gctttaattg atagtaattg 300
 tcagacttat ttaagtatcg gttatcgaga taatcgttac tggcctaact tcacacaaaa 360
 caataacttt tttggtccga tctctataa ccataataat atttatggag tccgtatcat 420
 tgataccgca gggaagcccc ctgtctggtc cttgattgaa atggataatc aaccacttga 480
 attagcgcgt tatcgcatc tgattgcttt ggtcattacc ggcctaatga ctttat 536

<210> 2845
<211> 529
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2845
cacagcaaca aactactcaa aatttaattg cagagctttt ggaaaagcac aacattacag 60
gattagtaaa tgcagcgggc gtattaatta tgcgttctat gcttgaagca aaaccggaag 120
attggcaaac actttttgcg gtgaatgtca tggcaccat cgcaattagt caacaacttg 180
ccaagcactt ttgtgaaaaa aaacagggaa gtattgtcac tattagctca aatagtgcac 240
gtatgccacg tatgcagctc ggcatgtatg caacgagtaa agcggcactg agtcattact 300
gccgtaatct tgcacttgaa atcgcacctc atcaagtcag actcaatata gtttcgccag 360
gttctacttt aacgcaaatg caacaacagc tttggacaga caattcgctt ccacctgctg 420
ttattgatgg cgacttaaac cagtaccgca ctggcattcc acttagaaaa cttgcccagc 480
ctgaagatat cgctaatacc gttagctttt tactttcaga ccaagcagc 529

<210> 2846
<211> 414
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2846
tgagtattcc caaaattgct agctacagta tgcctcaagc ccatgagttt acgccaata 60
aaaccattg gcagttacat accaatcgcg ccgtgttact ggtccatgac atgcagcagt 120
atTTTTtaga tttttatgac caaactcaag cacctattcc agagctcatt agaaatacca 180
aagaactgat taaaaccgca cgtaaattta atattccagt ggtttatact gcacagcccg 240
gtaatcagac gcctgaacac cgtcaactat tgaccgattt ttggggaacc gggttaaaag 300
atgatccgta tattactcag attttgccgg aaatctcgcc tcagaaaaat gatactgttt 360
taacaaaatg gcgttatagc gcatttaagt tttccccact tgaacaactc atgc 414

<210> 2847
<211> 500
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2847
gcacattggg ataagagac acaaaatgct tttgttgaat taaagcaaaa acttaatgac 60

caatggaatg ctaaactgac ttacaactat cttgatacga agcataatag ccgtcttctc 120
 tattactatg gttatccaaa atctgatggg tccggtgttt ctctaacgcc ttgggggtgga 180
 caagaacatc aagaaaaaca tgctgtagat tttaatctcg aagggaacct taagctatct 240
 aaccgagaac atgaagcaac tctaggctac agctatgtac gtaatcatca acaagataaa 300
 caatctacag gaacgattaa cgatagtaac gttataaagt caactactac cgattgggca 360
 agttggacac cgcaatctat aacttgggtca gatttcacag aagcggccaa ctataaacia 420
 aatattaact caatttatgc cgcgacacgt ttacatctta atgaagattt aaaactttta 480
 cttggtgcaa actatgttca 500

<210> 2848
 <211> 561
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2848
 tgtatctcga tttggttggtg aaccaatatt cgggtccagca agttgtgcca gtgattgtga 60
 aaaatgatga gtacttcata caaaaaaaga agctgattga tgaattagaa attaacatcc 120
 ctcaagagtt attaacaaac actgacacat ctttatcgaa tcaagatggt ttgaccttgg 180
 ggttttagtg tgatgcgagt gattggatat ctttagataa attaaaagat gtaagctatg 240
 aatatcaatc ttcgaaacca tactttaagc tcaattttcc gcccgcttgg atgccactc 300
 aagttttggg taaagactca tgggtataagc cggaagtcgc tcagtctggt atagggctgc 360
 tcaataacta tgatttttat acatatagac cctatcaagg cggttcaacc agtagtttat 420
 ttactgagca gcgttttttc tctccggttag gggtcattaa aaactctggt gtctatgtca 480
 aaaaccaata caaaaatgaa ggtaacgcgc agtctgtaga taatgacggc tatcgtcggt 540
 atgacacatc ttggcagttt g 561

<210> 2849
 <211> 501
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2849
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 attgaagcca atgaaaaggc aactgcggtt tggcttcaaa atacgggtaa gaccgatgcg 120
 atggtgcaaa ttcgggtatt taaatggaat caagatggct taaaagataa ctatagttag 180

caatcagaaa ttataccaag cccgcctgta gctaaaatta aagcaggcga gaagcatatg 240
 cttcgcttaa ccaaaagcgt caatttgccg gatggcaaag agcagtcata tcgtctgatt 300
 gtagatgagt tgccgatccg actttctgat ggcaacgagc aagatgcttc taaagtaagt 360
 ttccaaatgc gttactcaat tccattgttt gcttatggga aaggaattgg cagtggatta 420
 accgaagaaa gtcaaaaact taatgcaaaa aatgctttag caaaaccggt ttacagtgg 480
 tcagttcgca ataataca a 501

<210> 2850
 <211> 501
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2850
 attgatcgaa atcaccaaaa tggaggatcc atcatgatcc ttcggcataa taatttatgc 60
 aaaagtattt tgctgatttt attgtcgggt ggatgtttaa atattccaaa tactgtgttt 120
 gcaggcgatt tgctccacc accaagagac attaatgaaa ttaatcaact ttttaaactg 180
 tatctcgatt tggttgtgaa ccaatattcg gtccagcaag ttgtgccagt gattgtgaaa 240
 aatgatgagt acttcataca aaaaaagaag ctgattgatg aattagaaat taacatccct 300
 caagagttat taacaaacac tgacacatct ttatcgaatc aagatgtttt gaccttgggg 360
 tttagtgggtg atgcgagtga ttggatatct ttagataaat taaaagatgt aagctatgaa 420
 tatcaatctt cgaaccaata ctttaagctc aattttccgc ccgcttggat gccactcaa 480
 gttttgggta aagactcatg g 501

<210> 2851
 <211> 515
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2851
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 ccttgtttgc tgcttaatgc tcggttgatc gaaaaatctg caaaaggata tggcaaagtc 120
 tcgggtttta cgcaggtat gttaaaacag ctggactggg tgtagctca agatagtgc 180
 actcgtcagc gttatgttga gcttggttta gacgaacaca aaagtcaggt cgttggtaat 240
 attaatgttg atattcatgc gccagaggct tttattaaac aagctgcca attgcatcag 300
 caatggatc tggaaaatcg gcaggttggtg acgattgcca gtacacatgc accgaagaa 360

caacaaatth ttgaagcact cgcaccttat ttaaattcag atcgtgagtt ggtgtgtatt 420
 gtgggtgcctc gtcacctga gcgtttcgat gaagtatttg aaatttgcca aaatttaaat 480
 ttaattacgc atcgtagaag tatgggcca agtat 515

<210> 2852
 <211> 454
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2852
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 acaagctaaa attgaaaaatg gctgttcaat agataatatt gagcaaaaca tggatttttg 120
 taaatactct gctttatcaa aaaataaagt agtgactaat attattaata gcaaagggtc 180
 ttggaatatc cgttgtacgg aaagtttacc tgtaagtgtt tctatagatg gtggtgaaaa 240
 ccttcaaaat aatacaagac gtatgaagaa tggttcgtcc actaattatt tatcttacia 300
 gctatataac tctagtagtt tatccaatga atatattgta ggtaataaat atttattgcc 360
 tgctacaaca cctacaaacc gtctggcaaa ttttgaaata tatgggtgtcg ttgatttaga 420
 aaataataat gaaccccata cggccggaat ttat 454

<210> 2853
 <211> 517
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2853
 atatgaaaaa cattcagaaa tcacttcttg cagcatthaat agttgctggt tatgcggtaa 60
 atactcaagc agctgttact ggtcagggtg acgttaaatt aaatatctca acaggctgta 120
 ctgtagggtg tagtcaaact gaaggaaata tgaacaagtt tggacttta aattttggta 180
 aaacttccgg tacttggaac aacgtattaa cagctgaagt tgcttcagca gcaacagggtg 240
 gcaatatttc tgtgacttgt gacggaacag atcctgttga ttttacagtc gcaattgacg 300
 gtgggtgaacg tacagaccgc actttaaaaa atactgcttc tgctgatgta gttgcatata 360
 acgtttatcg tgatgtgca cgtacaaacc tttatgttgt aaaccaacca caacagttca 420
 ctacagtaag tggccaagct actgccgtac caattttcgg tgcaattgct ccaaacacag 480
 gtacacaaaa agcacaaggc gattataaag atactct 517

<210> 2854

<211> 506
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2854
tttaaattgga gggaagatga tattcaatcg tgggttcagca ttataaattt cttatttttt 60
aatttcttta gtaaatacgg gtgaaatcgg agctaaatta actagtcaaa ttgaattatt 120
gccttcttgt tctgttaata ataatgttgt agaaaataat gcaacaaatt taaattttgg 180
aactatagat tttggtgaag ctaccacagc ttttaaaggg gttttagaag ctagtttagt 240
taataatggt aattcagggt ttcatagcga gtgtgctggt atttcaactg taaaaataat 300
atgttgagca ggaaataatg atagtaatat tccagcttca ttttcacaaa attattatca 360
tgctttaagt aatggttagag attttattgc ttataacttg ctctatgggt taaataaaca 420
agtcattaaa gcaaatgaag cttttattct taatgatatg aataataaaa agaataatcga 480
tatttttggt caagcaaccc atgatg 506

<210> 2855
<211> 542
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2855
gcttccttac gttcctctgc aattcctgtc tctgacctg cgtccggtct acgcattacc 60
gagatttttt actccttgca ggggtgaagca aatgcctctg gcctaccgac tgtattttatt 120
cgtctcacag gttgcccttt acggtgtagt tattgcgaca ccacctattc ttttgaaggt 180
ggcgaacgct tatcacttga gcacattatt gaaacggctg aaaaatatca aacgccttat 240
atgtgtgtga ctggcgggtga accacttgca caaccaatt gcttaatttt attacaacgt 300
ttatgtgacg ccggttttga tgtttcccta gaaaccagtg gcgctcttga tgtatcaaga 360
gtggatccgc gtgttttcaa agttctcgac ttaaagaccc caacttctgg tgaagaacat 420
cgtaatatca tcagtaatat tgaccattta acaccgctg accaaatcaa atttgtgatt 480
tgtaatcgtg aagactatga atgggtcaaaa caacaagttg aacaatatca actgcaaacc 540
aa 542

<210> 2856
<211> 540
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2856
taggtaatgc tgggtgttggg gctttctggc gcttaaacga tgctctatct cttcgtacag 60
aagctcgtgg taacttatac tttgacgaaa aattctggaa ctatacagct cttgctggct 120
taaacgtagt tcttggtggg cacttgaagc ctgctgctcc tgtagtagaa gttgctccag 180
ttgaaccaac tccagttgct ccacaaccac aagagttaac tgaagacctt aacatggaac 240
ttcgtgtggt ctttgatact aacaaatcaa acatcaaaga ccaatacaag ccagaaatcg 300
ctaaagttgc tgaaaaatta tctgaatacc ctaacgctac tgcacgtatc gaaggtcaca 360
cagataacac tgggtccacgt aagttgaacg aacgtttatc tttagctcgt gctaactctg 420
ttaaatcagc tcttgtaaac gaatacaacg ttgacgcttc tcgtttgtct actcaagggt 480
tcgcttgga tcaaccgatt gctgacaaca aaactaaaga aggtcgtgct atgaaccgtc 540

<210> 2857
<211> 584
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2857
tcgtgtgtta ttgcttgatg aaccatgttg tgcactagat gctaagggtc gtaaagaatt 60
acgccgctgg ttacgtaact tgcatgatga gctgcatatc acttcaattt tcgtaaccca 120
tgaccaagaa gaggcacttg aagtagccga ccaaattatt gtgatgaata aaggtaacgt 180
cgaacaaatt ggttctccgc gtgaagttta cgaaaaacct gcaacaccat ttgtatttga 240
tttcttgggg caagcaaata gttttgaagg tgaacatgca agcggatta tccgtattgg 300
caatgatcgt atcgaattac cgaccacagt tcaggtccg caaggaaaag taattgcttt 360
tgcccgtcct gatgagttac atattcatgc gcaaccacag gcaaatacaa ttgaagcaac 420
ttttgtacgt gaagtctgga ttgctggaaa agtagtggcg gaattacaag atcgtaatgg 480
acgtttaatt gagattgctc tgagcagtga agctgcaaaa caacatgcat ttaaaccaaa 540
tcaaaactggt tgggtaagtg catctcaact tcacctattt gcag 584

<210> 2858
<211> 427
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2858
atgcctattt ccaatcaaga ttgcgcaaa gctggactta aagttaccct tccacgaatt 60
aagattttgg aattattaga aaattcaaaa caacatcatc ttagcgccga agatatttac 120

aagactttgt tagagcaagg ggaagatgtc ggacttgcca cagtttaccg tgtgtaaca 180
 caatttgaag ctgcgggtat tattcaacgt catcattttg aaaataacca ttctgttttc 240
 gaaatcatgc aagaagatca tcacgatcac ttagtatgcc aaaactgtaa caaagtcatt 300
 gaatttacta atgatgttat cgagaaagaa cagcattctg tagcagaaca acatgggttt 360
 accttaacgg gtcactcatt aaatctctat ggttactgta atgaacctga atgtcaggaa 420
 gcattgc 427

<210> 2859
 <211> 355
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2859
 agatggatgt tgatgctctt gaaaaaaca tggcgcatct tcaagctgaa ggtaaagttg 60
 ttgcttgtgt cgttgcgaca gcgggtacaa ctgatgctgg tgcaattcat ccattgaaaa 120
 aaatccgtga aattactaat aagtatggtt catggatgca tatcgatgct gcgtggggcg 180
 gtgcactgat cttgtcaaat acctatcgtg caatgcttga tggattgag ctgtctgatt 240
 cgatcactct cgacttccat aagcattatt tccaaagcat cagctgtggc gcgttcttgt 300
 taaaagatga agcgaactat cgtttcatgc attatgaagc tgagtacttg aactc 355

<210> 2860
 <211> 564
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2860
 gatgaatacc gccattacg ttgcaaaat ggtttatatg tgcaacgtta tgcaccaatg 60
 ctacgtattg ctgtgccgta tggcttaatg aactcaaaac aattacgtaa aattgctgaa 120
 gtatcaactc aatatgaccg tggctatgca cacgtatcta cgcgtcaaaa tattcagcta 180
 aactggcctg cacttgaaga tgtgccagaa attttagctg aactcgcaac tgtacaaatg 240
 catgccattc aaaccagtgg taactgtatt cgtaacacga ctactgacca gtatgcagg 300
 gtagttgctg gtgaaattgc tgatccacgc ccaacatgtg aattgattcg tcagtggagt 360
 acattccacc cggaatttgc attcttacca cgtaaattta aaattgccgt ttctgcactt 420
 gaagaaaaag accgtgcagc aacagcattc catgatattg gtgtgtatat cgtgcgtaat 480
 gaagcaggcg agatgggcta caaaatcatg gtgggtgggt gtttagggcg tactccgatt 540

attggtagtgc tcatcgtga gttt

564

<210> 2861

<211> 310

<212> DNA

<213> Acinetobacter baumannii

<400> 2861

tttaaagttc ctacggctaa actcttacca gacttaccaa gttttacggg cggcttggtg 60

ggttatattg gctacgatgc tgtccgctac atcgagccac gtttaaagaa tgtacctgcg 120

gctgatccga ttacgctgcc agatttatgg ttgatgctct caaagacagt cattgttttt 180

gacaatctta aagatacgtc atttttaatt gtgcagtcgg atacagagca gagtaatgct 240

tatgaagacg ctcaacaaaa attagatcaa ttagaacagt tgttggcgac tccagttagt 300

ttgcaagcgc 310

<210> 2862

<211> 530

<212> DNA

<213> Acinetobacter baumannii

<400> 2862

ttaaacgtct tgccgatgac tttaataaag tggacgaagg tactttaacg attgcaacaa 60

cacatactca agcaggttat gtattaccac caatcgtaa tcaatttaag aaactatttc 120

caaaagtcca tttgatattg caacaagcaa gccctgtcga aattgcagaa atgcttttac 180

aaggtgaagc tgatattggc atcgcgacag agtctttaac aactgaagaa aatttagcaa 240

gcattccata ctatcaatgg cagcacagca ttattactcc tcaagatcac ccacttacac 300

agctcgataa aattgatctt gatgctttat ctgaataccc actaattact tatcacggcg 360

gttttacagg tcgttcaaag atcgataaag catttgaaga tgcacaaatt gatgccgata 420

ttgtaatgtc tgctcttgat gccgatgtta tcaaaactta cgttgaactc ggcatgggtg 480

tcggaattgt caatgatgtc gcttacgatg cagagcgtga ctatcgttta 530

<210> 2863

<211> 534

<212> DNA

<213> Acinetobacter baumannii

<400> 2863

cgacgcttta tctcttcgta ctgaagctcg tgctacttat aatgctgatg aagagttctg 60

gaactataca gctcttgctg gcttaaactg agttcttggt ggctacttga agcctgctgc 120
 tcctgtagta gaagttgctc cagttgaacc aactccagtt gctccacaac cacaagagtt 180
 aactgaagac cttaacatgg aacttcgtgt gttctttgat actaacaat caaacatcaa 240
 agaccaatac aagccagaaa ttgctaaagt tgctgaaaaa ttatctgaat accctaacgc 300
 tactgcacgt atcgaaggtc acacagataa cactgggtcca cgtaagttga acgaacgttt 360
 atcttttagct cgtgctaact ctgttaaatac agctcttgta aacgaataca acgttgatgc 420
 ttctcgtttg tctactcaag gtttcgcttg ggatcaaccg attgctgaca aaaaaactaa 480
 agaaggtcgt gctatgaacc gtcgtgtatt cgcgacaatac actggtagcc gtac 534

<210> 2864
 <211> 336
 <212> DNA
 <213> Enterobacter cloacae

<400> 2864
 ccgacacttg ctgacgtaca ggaacagtac ttgccaaagcg ttttagcgca agagtccgtc 60
 actccataca ttgcaatgct gaatggagag ccgattgggt atgcccagtc gtacgttgct 120
 cttggaagcg gggcaggatg gtgggaagaa gaaaccgatac caggagtacg cggaatagac 180
 cagtcactgg cgaatgcata acaactgggc aaaggcttgg gaaccaagct ggttcgagct 240
 ctggttgagt tgctgttcaa tgatcccgag gtcaccaaga tccaaacgga cccgtcgccg 300
 agcaacttgc gagcgatccg atgctacgag aaagcg 336

<210> 2865
 <211> 527
 <212> DNA
 <213> Acinetobacter baumannii

<400> 2865
 gtgaaggcat gagggttatt cgggccatga atggaaagca agcgattgaa ttgcacgcta 60
 gccaaacctat cgatttaatac ttacttgata ttaaattacc cgaattaaac ggctgggaag 120
 tattaaataa aatacgccaa aaagctcaga ctcccgatgat catgttgacg gcgctagatac 180
 aagatattga taaagttatg gcattacgca taggtgcaga tgactttgtg gtgaagcctt 240
 ttaacccaaa tgaagtcata gctagagttc aggagctctt aagaagaact cagtttgcaa 300
 acaaagcaac taataagaat aaaatctata aaaatattga aattgatacc gacactcata 360
 gcgtttatat acactctgag aataagaaaa tcttgcttaa tctgacgctg actgaatata 420

aaattatttc attcatgatt gaccaacctc ataaagtttt tacgcgcgga gaacttatga 480
accactgcat gaatgatagc gatgcactag agcgaaccgt agatagc 527

<210> 2866
<211> 588
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2866
tcagtgtatt aagcattcaa ccgcaatcgg taaatttttag tgaaaatcctt cctgcacgtg 60
tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaaggttc 120
tatttaaaca aggtagtga gttagagcag ggcaagcctt atataaaatt aattccgaga 180
cttttgaggc cgatgtaaat agcaatagag cttctctcaa taaagctgaa gctgaggtgg 240
caagactcaa agttcagtta gaacgttatg agcagttatt accaagtaat gcaattagta 300
agcaagaagt aagtaatgct caagctcagt atcgtcaggc tctagccgat gtcgctcaaa 360
tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgcta 420
tttctgggcy tattgggcaa tcttttgtca ctgaagggtgc attggtcggg cagggcgata 480
ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540
ttagtgagta tgaacgccta caggctgcgc taaaaagcgg cgaattat 588

<210> 2867
<211> 567
<212> DNA
<213> *Enterobacter cloacae*

<400> 2867
atcgtgacca acagcaacga ttccgtcaca ctgcgcctca tgactgagca tgaccttgcy 60
atgctctatg agtggctaaa tcgatctcat atcgtcaggt ggtggggcgg agaagaagca 120
cgcccgcac ttgctgacgt acaggaacag tacttgccaa gcgttttagc gcaagagtcc 180
gtcactccat acattgcaat gctgaatgga gagccgattg ggtatgcca gtcgtacgtt 240
gctcttgaa gcggggacgg atggtgggaa gaagaaaccg atccaggagt acgcggaata 300
gaccagtcac tggcgaatgc atcacaactg ggcaaaggct tgggaacca gctggttcga 360
gctctgggtg agttgctgtt caatgatccc gaggtcacca agatccaaac ggacccgtcg 420
ccgagcaact tgcgagcgat ccgatgctac gagaaagcgg ggtttgagag gcaaggtaac 480
gtaaccaccc cagatgggtcc agccgtgtac atggttcaaa cacgccaggc attcgagcga 540

acacgcagtg atgcctaacc cttccat

567

<210> 2868

<211> 588

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2868

tcagtgtatt aagcattcaa cgcgaatcgg taaatttttag tgaaaatctt cctgcacgtg 60

tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaagggtc 120

tatttaaaca aggtagttaa gtttagagcag ggcaagcctt atataaaatt aattccgaga 180

cttttgaggc cgatgtaaat agcaatagag cttctctcaa taaagctgaa gctgaggtgg 240

caagactcaa agttcagtta gaacgttatg agcagttatt accaagtaat gcaattagta 300

agcaagaagt aagtaatgct caagctcagt atcgtcaggc tctagccgat gtcgctcaaa 360

tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgcta 420

tttctgggcg tattgggcaa tcttttgtca ctgaaggtgc attggtcggg cagggcgata 480

ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540

ttagtgagta tgaacgccta caggctgcgc taaaagcgg cgaattat 588

<210> 2869

<211> 588

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2869

tcagtgtatt aagcattcaa cgcgaatcgg taaatttttag tgaaaatctt cctgcacgtg 60

tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaagggtc 120

tatttaaaca aggtagttaa gtttagagcag ggcaagcctt atataaaatt aattccgaga 180

cttttgaggc cgatgtaaat agcaatagag cttctctcaa taaagctgaa gctgaggtgg 240

caagactcaa agttcagtta gaacgttatg agcagttatt accaagtaat gcaattagta 300

agcaagaagt aagtaatgct caagctcagt atcgtcaggc tctagccgat gtcgctcaaa 360

tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgcta 420

tttctgggcg tattgggcaa tcttttgtca ctgaaggtgc attggtcggg cagggcgata 480

ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540

ttagtgagta tgaacgccta caggctgcgc taaaagcgg cgaattat 588

<210> 2870
<211> 718
<212> DNA
<213> *Acinetobacter baumannii*

<400> 2870
tgccaattaa cttcttagcc gaagcagcaa aaaaaattag tcacggcgac ctctctgcta 60
gagcttacga taatagaatt cactccgccc aaatgtcgga gcttttatat aattttaatg 120
atatggctca aaagctagag gtttccgtca aaaatgcgca ggtttggaat gcagccatcg 180
cacatgagtt aagaacgcct ataacgatat tacaaggctg tttacagggga attattgatg 240
gcgtttttta acctgatgaa gtccatttta aaagtctttt aaatcaaatt gaagggtttat 300
ctcacttagt cgaagactta cggactttta gcttagtaga gaaccagcaa ctccgggtta 360
attatgaatt gtttgacttt aaggcggtag ttgaaaaagt tcttaaagca tttgaagatc 420
gtttggatca agctaagcta gtaccagaac ttgacctaac gtccactcct gtatattgcg 480
accgccgtcg tattgagcaa gttttaattg ctttaattga taatgcgatt cgctattcaa 540
atgcaggcaa acttaaaatc tcttcagaag tggttgcaga caactggata ttaaaaattg 600
aggatgaagg ccccgccatt gcaaccgagt tccaagacga tttatttaag cttttcttta 660
gattagaaga atcaaggaat aaagaatttg gcggcacagg tttaggtctt gctgttgt 718

<210> 2871
<211> 673
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2871
attcctgcag ttcagtgggt ccgccgttgc gtccctcgctg tttgccccgg cgctgggtgca 60
accggtttcc gcctcgtctg gcataccccc cgcgaaacgcc gccattgccg gcgccgccga 120
tttcgccgctg ctggagaaag ccagcgggtg ccgcctgggc gtcaccgtgt tgaacaccgg 180
caacggctcgt cgcacggcg ggcatcggca ggatgagcgc ttcccgatgt gcagcacggt 240
caagtcgatg ctggtcgccc atgtgctgag ccttgccgat gcaggccgcg tttcgtctga 300
caccctgtg cccatcgccg ggaaggatct gctgtcctac gtcgggtg cgcccgcca 360
cgtgggcaag gatctgaccg tgcgcgacct gtgccggggc acgctgacca ccagcgacaa 420
cacgcgggcc aacctgctgc tggaggtggt gggcgggccg tcggcgctga cggcattcct 480
gcgcgggcag ggcgacagca ttaccgcaa tgaccgcaac gagccggacg tgaatctgtt 540

cgcgaaagga gacccgcgcg ataccaccag cccggccgcg atggccacca gcctggcccg 600
 cttcgcggtg ggcaatggcc tgcagcctgc atcgcgccgg cagttcgccg attggctcat 660
 cgacaaccag acc 673

<210> 2872
 <211> 584
 <212> DNA
 <213> Enterobacter cloacae

<400> 2872
 cagccacact actttacctt cggtaaagcc gatgttgccg cgaacaaacc cgtcaccocg 60
 caaacctgt ttgagctggg ctctataagt aaaaccttca cggcggtact gggcgcgat 120
 gccattgccc ggggtgaaat agcgcctggc gatccggtag caaaatactg gcctgagctc 180
 acgggcaagc agtggcaggc cattcgcctg ctggatctgg caacctatac cgcaggcggc 240
 ctgccgttac aggtgccgga tgaggtcacg gataccgcct ctctgctgcg cttttatcaa 300
 aactggcagc cgcagtggaa gccgggcacc acgcgtcttt acgctaacgc cagcatcggt 360
 ctttttggtg cgctggcggc caaaccttcc ggcatgagct atgagcaggc catgacgacg 420
 cgggtcttta aacctctcaa gctggaccat acctggatta acgtcccgaa agcggaagag 480
 gcgcattacg cctggggata ccgtgagggt aaagcggctc acgtttcgcc agggatgctg 540
 gacgcggaag cctatggcgt aaaaactaac gtgaaggata tggc 584

<210> 2873
 <211> 556
 <212> DNA
 <213> Enterobacter cloacae

<400> 2873
 cattagccag catgtgaaaa cgctggagca gcacctgaac tgtcagctgt tcgttcgcgt 60
 gtcgcgcggg ctgatgttga ctatcgaggg tgaaaattta ctgccggtgt tgaatgattc 120
 ttctgatcgt atagccggaa tgctggatcg cttcgctaac catcgtgcgc aggagaagct 180
 gaaaatcggc gtggtgggta catttgccac cgggggtttta ttctcgcagc tggaggatct 240
 tcgccgtggc tatccgcaca tcgatcttca gctttccacc cataacaacc gcgttgatcc 300
 ggctgccgaa gggcttgact atacgatccg ctacggtggc ggggcgtggc acggcaccga 360
 ggctgaattc ctttgcctg cgccgctcgc gccgctgtgt acgcccagata tcgccgccag 420
 tctgcacagt ccggccgaca tcctcagggt tacgctgctg cgctcttacc gacgcgatga 480

atggaccgcg tggatgcagg cggccggcga gcatccccct tcgccaacgc accgcgtgat 540
ggtatttgat tcgtcc 556

<210> 2874
<211> 597
<212> DNA
<213> *Enterobacter cloacae*

<400> 2874
gcatctcttg ctctgctctc gccacgccag tgtcagaaaa acagctggcg gaggtggtag 60
cgaatacggg taccgcgctg atgaaagccc agtctgttcc aggcattggcg gtggccgtta 120
tttatcaggg aaaaccgcac tattacacgt ttggcaaggc cgatatcgcg gcgaataaac 180
ccgttacgcc tcagaccctg ttcgagctgg gttctataag taaaaccttc accggcgtgt 240
taggtgggga tgccattgct cgcggtgaaa ttctgctgga cgatccggtg accagatact 300
ggccacagct gacgggcaag cagtggcagg gtattcgtat gctggatctc gccacctaca 360
ccgctggcgg cctgccgcta caggtaccgg atgaggtcac ggataacgcc tccctgctgc 420
gcttttatca aaactggcag ccgcagtgga agcctggcac aacgcgtctt tacgccaacg 480
ccagcatcgg tctttttggt gcgctggcgg tcaaaccttc tggcatgccc tatgagcagg 540
ccatgacgac gcgggtcctt aagccgctca agctggacca tacctggatt aacgtgc 597

<210> 2875
<211> 596
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2875
ccacctcatc agcaacatga aggtgcgcgg cgtggcgccg caggacctgc ggctgatact 60
gctcagccac gcgcacgcgg accatgccgg gccggtggcg gagctgaagc gccgtacggg 120
cgccaaagta gcggccaacg ccgaatcggc ggtgctgctg gcgcgcggtg gcagcgacga 180
tctgcacttc ggcgatggca tcacctaccg gcctgccagt gcagaccgca tcgtcatgga 240
tggcgaaatg atcacggtgg gcggcatcgc gttcactgcg cacttcatgc cggggcacac 300
cccgggcagc accgcgtgga cctggaccga taccgcgag ggcaagccgg tgcgcatcgc 360
ctacgccgac agcctgagtg caccgggcta ccagctgcag ggcaaccccc gttatccgca 420
cctgatcagag gattacagga acagcttagc gacggtgcgg gcgctgccct gcgacgtgtt 480
gctgacaccg catccgggtg ccagcaactg ggactacgct gccggcagca aggccagcgc 540

caaggcactg acctgcaagg cctacgcgga tgcggccgaa cagaagtctg acgcac 596

<210> 2876
<211> 181
<212> DNA
<213> *Enterobacter cloacae*

<400> 2876
aaaacggttc accataaaaa acatcacaaa gcggctaaac cagcggcaga acagaaagcg 60
caggccgcga aaaagcacca taaaaaagcg gcaaaacctg cggtagagca gaaagcccag 120
gcggctaaaa agcatcacaa aaaagcagca aaacacgaag cggctaaacc tgctgcacag 180
c 181

<210> 2877
<211> 310
<212> DNA
<213> *Enterobacter cloacae*

<400> 2877
ttgccgatta tcagatcgtg accgatctga atgccgaatg cgatcgggcg atactccggg 60
ttgacgttgc gctggaaggc tcacgctacg ccgaatgcga ggtggcgttt accctgtggc 120
gtaatggcga agcctgcgcg caaaccacgc agcagcccgg atcggccatc gtggacgaac 180
gcggcagttg ggctgaacgg cttacggtgg cgatacccggt gaacgctccc gcgctgtgga 240
gcgctgaaac accggaatgc tatcggtgta caatgtcgct tcgggatgcg cagggtaacg 300
tgctggagac 310

<210> 2878
<211> 260
<212> DNA
<213> *Enterobacter cloacae*

<400> 2878
ggtctacacc acggatcaca ccgacgttgc cgcctggggc gacgtgctga cccgttttat 60
cattgccgat aacccactc tggcactgaa ggctgtcgat gccctgcgc attccgacgg 120
tgctgatgca ggctcggtgg agaaagagtg gcgcgccatg accgatgtgc atcagttctt 180
tagcttactg aagcgccata acctgagccg ccagcaggcg tttcgtctgg tgagtacga 240
tctggcctgt aaagtgata 260

<210> 2879
<211> 294

<212> DNA
<213> Enterobacter cloacae

<400> 2879
ttctcgacga acccacttca gcgctggatc tctaccacca gcagcatctg ctgcgcctgt 60
tgaaatcgct gaccgcgcag ggccatcttc acgcctgcgt ggtgctgcac gatctcaatc 120
ttgccgcatt atggctcgac cggatcctgc tgttacacaa cggcaggatt gtttctcagg 180
gcataccgga gacgggtttg caggccgacg cgtggtcaca ctggtacggt gcgcagggtgc 240
acgttgcat gacatccggc gcacgccga ccgcaggttt ttctcgcccc ttag 294

<210> 2880
<211> 153
<212> DNA
<213> Enterobacter cloacae

<400> 2880
cgtcggtttg tctttctgac ggccgaaggt gaggccctgc ttgagagcag taaaccgatt 60
ggaaatgagg tggatgaggc gtttttaggg cgccttaacg gcgcggaacg agagcaatct 120
tcagcgtca ttaaaaagat gatgcaggat taa 153

<210> 2881
<211> 353
<212> DNA
<213> Enterobacter cloacae

<400> 2881
gaccattac gaacaagaga tctctgacat tcacgtcgcc cttgaaaact ggtaggtgc 60
aggcgaaggc gatcgggaca ccctgctcgc ccgtttccgt ccggttttc tgatggttcc 120
accgagtggc aacccttttag atcatcacgc gcttgcccaa atttttatat tgcacagcgg 180
gggaaccgca cccgggctca ggatcgacat tgatgcgttg acaacgcttc agacatggga 240
caacggcgcg gtgctccatt accgggagac gcaaaccgga ccaggccagc ccgtcaacgt 300
gcgctggtca accgcagtgc ttaatcagga aggggataac atccacctgg cgt 353

<210> 2882
<211> 517
<212> DNA
<213> Enterobacter cloacae

<400> 2882
agtgggtgtg ctttcgtggg tcagcaatga cgcccagctg cgtcagcttt cactctgggg 60
aatgggaagt cttggtcagg cacagtggtc aacgctgctc gccgtgacct cgctgatggg 120

gacctgccgtt ctggcgatct ggcgttggtgc cagcgcatta aatttactgc aactgggtga 180
 agaggaagcg cattaccttg gcgtggacgt tgcctttgta cagcgaatat tactgttatg 240
 cagcgccctg ctggtcgctg cggctgtcgc cgtcagcggc gtgattggct ttgtcggact 300
 cgtggtgccc cacctgatgc gcatgtggct gggcgccgat caccgggcaa ccctccccgg 360
 caggttactc gctggcgctt tactgtctgt ggtggcggat acggtcgcgc gcaccctggt 420
 cgctccggca gaaatgccgg tcggcctgct caccagtatc cttggtgctc cctggttctt 480
 atggctcatt ttctgctgtg gagaacagca tggctga 517

<210> 2883
 <211> 627
 <212> DNA
 <213> *Enterobacter cloacae*

<400> 2883
 gcggagtctt ctctggttgc gcgcgacagt accagccagt ggccgcaggc gacaaacgcg 60
 ctgcctgacg tggggtatct tcgccagctg aatgcggagg ggattttgtc cgtacgcccg 120
 acgtggtgct tggcaagcga ccaggcgcag ccctctctgg cgctgaaaca ggttgaacag 180
 agccacgtcc ggggtgttac cgttcccggc acgcctgacc tgcgcgcgat tgacgaaaaa 240
 gtacgggtga tagctcaggc gacgcatcat gaggcgcaag gggaaacctc gcgcaactcg 300
 ctgcgtcagg cgctggcggc actgccctca acaccgtcaa caagcgggtg ctgtttatcc 360
 tcagccacgg cggaatgacc gcaatgggcg gccgggcaac agaccggcgc ggatgcggca 420
 atacgcgcg cggggttga gaacgccatg cagggttcta cccgctatca gccgctttcc 480
 aggagggggt gatggccagc cagccggatc tgggtggtgat ttcgcaggac ggtcttaacg 540
 cgctgggcgg cgaagaaaat ctgtggaaac tgcccggcct ggcgcaaacg ccagcgggac 600
 gaagcaagca ggtgctggct attgatg 627

<210> 2884
 <211> 731
 <212> DNA
 <213> *Enterobacter cloacae*

<400> 2884
 catcaggata aacggcatag atgccctgct gagcgaacgt gtacgccggt aacagcgaga 60
 ccagttcccc tgcattcagt gcgtttcgca ccagccactc cggcagcagc gccactccac 120
 atccccgcgag ggcaaaagcc atcagcgctt gggcgctgtc tgcatacagg cgcggcgctc 180

tcttgatctc aaaggaaacc ggctgctcat caacacctct cacctgccag cgcagcggcg 240
 aggttaaaccg ctcatgaatg atccagtcg cttccgccag ctgctccagc gagttaaccg 300
 gatggtttgc cagccagcct ggcgttgcca cgggcaggat ggtgaaggag gtcataacg 360
 cggcgtggta gcgcgaatct gcaagcgtgc cgagccggat agcgacatcg aagcgtcgg 420
 cgataagatc ggcatgcaaa gaggacgaga catgccgcac gcgaagggtcc ggggtgcagct 480
 ggctaaattc agccagcaaa ggcaccacca cctgcgagcc atattcgggc gtggtggtga 540
 tccgcagttc tcccgtcagc ccggcgtggg tggcgcgaac gtcatacctgc aatcgctctg 600
 catcccgtaa cagcatcacg cttcgttgat gaaagagctt cccgcctcg gtcagcgtca 660
 ggcgctcggg gtctcgcagc aacagggtga cggccagctc ctcttcaagc tgacgaatat 720
 gaaagctgac c 731

<210> 2885
 <211> 353
 <212> DNA
 <213> *Enterobacter cloacae*

<400> 2885
 agcagtaacc cgatgaccga tcgttccacc attcagcgcg atgccagct tggctaccgc 60
 attgcgccag ccggaacga ctgggtgaac gccgatgcga aaatttactg gtccgaagcg 120
 cggatcaacg ccagaaacat cgacgccagc ggcgagttcc gtaagcagac taccaaaggc 180
 ggcaaagtgg aaaaccgcac ccgcctgttc agcgactctt tcgcctcgca cctgctgacc 240
 tacggcgggg aatactatcg tcaggagcaa caccctggcg gcgcgaccac cggcttcccg 300
 gacgcgaaaa tcgacttcag ctccggctgg ttgcaggatg agatcactct gcg 353

<210> 2886
 <211> 461
 <212> DNA
 <213> *Enterobacter cloacae*

<400> 2886
 gccattgtca cttttgcttt ggctcgcgcg tggcttaaaa cagaaccgtc gccgataaac 60
 accaccagga cagtaaacct gtctttgctg acggatccgc tgttgcgctt atccatgctt 120
 atctatgtgt gcgtaccggc catttttatc ggcgtgaacg taacgggcat gtattacctc 180
 cagagcgagg ccaatatgac acccgccgca acgggcatgc ttatgctgcc gtggtctgtg 240
 gcttcgtttg tggctatcac cgcgacagga cgctatttca accgtatcgg cccccggcgg 300

ctggtggtca tcggttgcc tttgcaggcg acgggcatte tgcttttagt taacgtcggc 360
 ccggcaatgc tgctacctgc cgttgcggtt gcgctgatgg gcgcgggggg aagcctttgc 420
 agcagtacgg ctacagagcag cgcgtttttg acgatgcgac c 461

<210> 2887
 <211> 401
 <212> DNA
 <213> *Enterococcus faecium*

<400> 2887
 ttggcaatgc gatgttaggt aatatcatcg ttgtcagcgg ctcatTTTTg atactactgg 60
 ctctcttgaa gcactttgct tggggaccaa tcagcgatat ttgaaaaaa cgtgaagaca 120
 agatcgccaa tgatttagat tctgcagaac aatctcgcat caactcagcg aaaatggaac 180
 aagaacgcga acaacaattg ttagcctctc gttctgatgc agctgatata atcaaaaatg 240
 cgaaagaaag tggagaatta agccgcaaaa atattttgaa ggatgctcaa gaagaagcag 300
 ctctctaaa aagcaaagcc caagctgata tcaactgtaga acgtgattca gcgctgaact 360
 ctgtaaaaga cgacgttgca gaactctctc ttcaaatcgc g 401

<210> 2888
 <211> 787
 <212> DNA
 <213> *Acinetobacter baumannii*

<400> 2888
 cggcatcgtc aacataacct cggacagttt ctccgatgga ggccggtatc tggcgccaga 60
 cgcagccatt gcgcaggcgc gtaagctgat ggccgagggg gcagatgtga tcgacctcgg 120
 tccggcatcc agcaatcccg acgccgcgcc tgtttcgtcc gacacagaaa tcgcgcgat 180
 cgcgccggtg ctggacgcgc tcaaggcaga tggcattccc gtctcgctcg acagttatca 240
 acccgcgacg caagcctatg cttgtcgcg tgggtgtggc tatctcaatg atattcgcgg 300
 ttttccagac gctgcgttct atccgcaatt ggcgaaatca tctgccaaac tcgtcgttat 360
 gcattcggtg caagacgggc aggcagatcg gcgcgaggca cccgctggcg acatcatgga 420
 tcacattgcg gcgttctttg acgcgcgcat cgcggcgctg acgggtgccg gtatcaaacg 480
 caaccgcctt gtccttgatc ccggcatggg gttttttctg ggggctgctc ccgaaacctc 540
 gctctcggtg ctggcgcggt tcgatgaatt gcggctgcgc ttcgatttgc cgggtgcttct 600
 gtctgtttcg cgcaaatcct ttctgcgcgc gctcacagge cgtggtccgg gggatgtcgg 660

ggccgcgaca ctcgctgcag agcttgccgc cgccgcaggt ggagctgact tcatccgcac 720
 acacgagccg cgccccttgc gcgacgggct ggcggtattg gcggcgctga aagaaaccgc 780
 aagaatt 787

<210> 2889
 <211> 632
 <212> DNA
 <213> *Stenotrophomonas maltophilia*

<400> 2889
 tgcagaacga gaaggatgcg gtggactcgg tgttctccgt gcagggcttc agcttcgccc 60
 gcatgggcca gaacgcgggc atggcgttcg tcaagctgaa ggactggagc gagcgtgacg 120
 ccgacaatgg cgtgatgccg atcaccggac gtgcgatggc ggccctgggc cagatcaagg 180
 atgccttcat cttgccttc ccgccgccgg ccatccgga gctggggacc gcctcgggct 240
 acaccttctt cctgaaggac aacagcggcc agggccacga ggactgggtg gccgcgcgca 300
 accagctgct cggcctggcc gcaggcagca agaagctggc caacgtacgc ccgaacggcc 360
 aggaagacac gccgcagttc cgcacgcaca tcgacgcggc caaggcgacc tcgctgggac 420
 tgtcgatcga ccagatcaac ggcacgctgg cggccgcgtg gggcagctcg tacatcgatg 480
 acttcgtoga tcgtggccgc gtcaagcgcg tgttcgtgca ggccgaccag gcgttcgcga 540
 tgggtgccga ggacttcgat ctctggtccg tgaagaacga caagggtgag atggtgccgt 600
 tcagcgcctt cgctaccaag cactgggact ac 632

<210> 2890
 <211> 526
 <212> DNA
 <213> *Stenotrophomonas maltophilia*

<400> 2890
 aggaacgtac gctggaatcg atcgcgccac tggaaaacca cttcctgcag aacgagaagg 60
 atgcagtgga ctcggtgttc tcggtgcagg gcttcagctt cgccggcatg ggccagaacg 120
 ccggcatggc gttcgtcaag ctgaaggact ggagcgagcg tgacgccaac aatggcgtga 180
 tgccgatcac cggacgcgcg atggcgcccc tgggccagat caaggatgcc ttcattctcg 240
 ccttcccgcc gccggccatc ccggaactgg gcaccgcctc gggctatacc ttcttcctga 300
 aggacaacag cggccagggc cagcaggcac tgggtggccgc gcgcaaccag ctgctcggcc 360
 tcgccgccgg cagcaagaag ctggccaacg tgcgcccgaa cggccaggag gacacgccgc 420

agttccgcat cgacatcgac gcgccaagg cgacctcgct ggggctgtcg atcgaccaga 480
tcaacggcac gctggccgcc gcgtggggca gctcgtagat cgacga 526

<210> 2891
<211> 473
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2891
caagaagcag aaccttcgca tcaatgtget tgccgccgcc gtgctgtcga tgaccgcggt 60
gggtgccgtc cagcccgctg gactgccgac ccgcgaaccg gtgcgccagg ccagtgtctgc 120
ccagccgggc accgaccgca tcatcgtaa gtatcgtagc ggtagcgtg cagccggtga 180
ccgttcggcc aagctgtcca ccgtgcagtc ggcgctgacc cgcgccagcc tggccggcgg 240
taccgcgcgc gccagtagc tgggcccga ggtggtacgc cggctgggcg tggcgccgga 300
tgtgatccgc ctgcagggcc gcctggcacc ggccgaactg cagcgcgtgc tgaaggaaact 360
gaaggccgac cctgcggtgc agtagccga ggccgacgtg aagctgcgcc gcagcgaact 420
gcgcgccggt gacgtgcagc ctgcgtggc gccgaatgat ccgtactacc agc 473

<210> 2892
<211> 403
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2892
cagcatcctg atggaagacg gcagcacctt cgagcacaag ggcacgctgg agttctctga 60
agtgcgctc gatccagcca ccgacgctt cggcctgcgc gtgaagggtg acaaccggga 120
cggcctgctg atgccgggca cctacgtgag cgcggtgatc ggcggcggcg tgcgcagcga 180
tgccgtgctg gtaccgatgc agggcatcgc ccgcgatccg aaggcgaca ccaccgcgat 240
ggtggtcggc aaggacaaca aggtcgaagt gcgcccggtc aaggtcagcc gcacggtcgg 300
cgacaagtgg ctggtcgagg acggtctgaa ggccggcgac aaggtcatcg tcgaaggcct 360
gcagaagatc ggccccggca tgccggtcaa ggccaccgag aag 403

<210> 2893
<211> 476
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2893

ctcatcgcca ctttcgacac caccagggc ccatcaagg tcgagctgtt cgccgacaag 60
 gcgccgctga ccgtggccaa cttcgtgaac ctggtcaagc acggtttcta tgacggcctg 120
 atcttccacc gcgtgatcgc cgacttcacg atccagggcg gctgcccgcg gggtcgtggc 180
 accggcggcc cgggctacaa gttcgaagac gagaagaatg gcgtgaagca cgaggtcggc 240
 tcgctgtcga tggccaacgc cggcccgaac accaacggca gccagttctt catcaccac 300
 atcaagaccg actggctgga cggccgccac accgtcttcg gcaaggtcct ggaaggccag 360
 gccatcgctg attcggtaaa gcagggcgac gtgatccatt cgatcaccct ggaaggcgac 420
 gtcgacgccg tgctggccgc ccaggccgag cgcgtcgcgg agtggaaaca gcacct 476

<210> 2894
 <211> 380
 <212> DNA
 <213> Stenotrophomonas maltophilia

<400> 2894
 tccagattgt cggagacatc gatgggatga ctgcgcagga tcgcgcgctc acccgccgcc 60
 accgcgcgca ccagcagcca gatgaagcat gcggtcagcg cgatgtgcag cacatgctgc 120
 aggttgccca gcaccggatc ctgcagcggc gtggcctgca atgcggggat caacaacagc 180
 agcggccatg cggtgggccag cggcaaccgc agcacacgtc cgatgcgtgc gcgccggcga 240
 tcacgccctt tcagtcgatg gtagatccac aggatcaacc acgcgccgat gccgcccact 300
 acaacggcca atcccaacgc ccatgcgtag gcctgtgcgc ttgcccagtg caccgttgcc 360
 acctccactc gaacagcagg 380

<210> 2895
 <211> 281
 <212> DNA
 <213> Stenotrophomonas maltophilia

<400> 2895
 gacaccgctg ctgaagtacc gcggcatgcc gccactgac gaacaggccg ccaccgagct 60
 gcgccgcgcc ggcccgctgg tggtagcggg ggagctgccc aaccagggcg cctgggcccga 120
 ggccgaacgc acgtgctgctc tgtacgaatt caaggccggg ctggagcgtc acttcaacac 180
 ccaccgagcg ccaactgcgc gccctggccga cctgatcgcc ttcaaccagg cgcacagcaa 240
 acaggaactg ggctgttctg gccaggaact gctggtggaa g 281

<210> 2896

<211> 286
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2896
ctgaagcccc caccattcct ccggtcatca acgttgacgc cgagctggat cactggcgcc 60
gccaacatgc cgaaggcgca ctgccgcaca actcgttcgg ctcgtaactg ccgtggatca 120
agtttgcctg cgattcgctg atcaccacgc cgcgcgccag cgaggccgaa cgtgacgaga 180
tgtttccagac ccagtacgcc ctgcagatca tgccgcgact gagtgaagcc caggcccgcg 240
aattcgctga ccgttgctgg cagcacgtct accagagcag tccggg 286

<210> 2897
<211> 629
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2897
cgtcaccgag aagaagagcg gccccgccct ggccagcaca cccggctcac ggggtggcagc 60
ggatcatgcgc cgcaatgcgg cattggccga ggactatgcg cggcgccacg cgattccgcg 120
ctggtacgcc gacgccgacg cactcatcgc cgatcccga gtgaacgcgg tctacgtcgc 180
aacgccgccc tcgacgcaca tgcagtacgc gctgcaggcg atcgccgcgg gcaagccggt 240
ctacatcgaa aagccgatgg ccatggacca cgacgagtgc cagcgcatca tcgcggccag 300
cgcccgcagc ggcgtgcccg ttttcgtggc ctactaccgc cgtgccctgc cccgcttcgc 360
acagggtgaag cagctgctgg acaacggcgc gatcggaacg ccgcgcagcg tgcgcgccac 420
cctgcatcgg ccgcattcgg cgaatgccgc atcgcccga tttctggcga ccaatccgtc 480
gatcgccggc ggcgggctgt tcgtcgatct gggctcgcat accctggacc tgctcgacca 540
tctgctgggg ccgctgagcg acgtgcgtgg cctggccagt tcgctgaccg gcgcctacgc 600
cgccgaggac agtgtctcga tgtgcttcc 629

<210> 2898
<211> 345
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2898
ggatgatgat cactccttca tcgagctgtc cgaagacgag cgcctgcgca agaccatgga 60
gatcatgctg cgcagcgatg cctcggccga caccaggggt ctgaccgaaa tgcagcaggc 120
cggattccgc gatgcgctgg accggatgga gcgtgccctg cgccgcgccc gcgatctggg 180

ccagctgcgc gaaggcgccg accccaagat cgccgcgcgc atgctgcatg ccaccgtgct 240
gggcgtgctg cacggggcga tggtcgaacc ggacctgatg gacctcaagc gcgacggcat 300
gctcgactg gacatgaccc tggccgccta cgtgaaggac ggcgt 345

<210> 2899
<211> 153
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2899
accgatggc tgacctacgg tgccgatgcg cagcggctga agatcgccga tgccacgctg 60
aagacctacg aggattcgct gcgcctggcc gaggcccgcc acgaacgtgg tggcagttcg 120
gcgctggagc tgaccagac ccgtaccctg gtc 153

<210> 2900
<211> 212
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2900
atgtcccagg taacgcaacc gcgtgtgctg cgagtgtggg tggtccttgg tgcgtccgtt 60
ctgtcatcgc tgctgctggc cagcctgctg ctggccggtg acgtccactc agcgggcttg 120
cagtccgcgc cgacgcacca gcgcttcacg gtgaagtacc gcgacggtag tgcgccggtg 180
gccaacacca ccgcactggc ctcttcgctg aa 212

<210> 2901
<211> 150
<212> DNA
<213> *Stenotrophomonas maltophilia*

<400> 2901
gtctcgacca aggtacgggt ctgggtcagc tccagcgccg aactgccgcc gcgttcgtgg 60
cgggcctcgg ccaagcgag cgaatcctcg taggtcttca gcgtggcatc ggcgatcttc 120
agccgctgcg catcagcccc ataggtcagc 150

<210> 2902
<211> 534
<212> DNA
<213> *Staphylococcus aureus*

<400> 2902
gctggtaaag ctgaagaaac aacacaacca gttgcacaac cattagttaa aattccacag 60

ggcacaatta caggtgaaat tgtgaaaggt ccggaatatc caacgatgga aaataaaacg 120
 ttacaaggtg aaatcgttca aggtccagat ttccaacaa tggaacaaag cggatccatct 180
 ttaagcgaca attatactca accgacgaca ccgaacccta ttttagaagg tcttgaaggt 240
 agctcatcta aacttgaaat aaaaccacaa ggtactgaat caacgttgaa aggtattcaa 300
 ggagaatcaa gtgatattga agttaaacct caagcaactg aaacaacaga agcttctcaa 360
 tatggtccga gaccgcaatt taacaaaaca cctaagtatg tgaaatatag agatgctggt 420
 acaggtattc gtgaatacaa cgatggaaca tttggatatg aagcgagacc aagattcaac 480
 aagccatcag aaacaaacgc atacaacgta acgacaaatc aagatggcac agta 534

<210> 2903
 <211> 505
 <212> DNA
 <213> *Staphylococcus aureus*

<400> 2903
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 ggtgaatctg aaacaaaatc tcctgttgta aaagaagaga acaaagttga agaccctcaa 120
 tcacctaaat ttgataacca acaagagggt aaaactacgg ctggtaaagc tgaagaaaca 180
 acacaaccag ttgcacaacc attagttaaa attccacagg gcacaattac aggtgaaatt 240
 gtgaaaggtc cggaatatcc aacgatggaa aataaaacgt tacaagggtga aatcgttcaa 300
 ggtccagatt tccaacaat ggaacaaagc ggtccatctt taagcgacaa ttatactcaa 360
 ccgacgacac cgaaccctat tttagaaggt cttgaaggta gctcatctaa acttgaaata 420
 aaaccacaag gtactgaatc aacgttgaaa ggtattcaag gagaatcaag tgatattgaa 480
 gttaaaccctc aagcaactga aacaa 505

<210> 2904
 <211> 523
 <212> DNA
 <213> *Streptococcus dysgalactiae*

<400> 2904
 gacattgaga ttggtgatga ggatcgccga gggcttgaat tggcagcaga tattcgacaa 60
 aaagacccca atgcggtcat tgtgtttggt accacacatt ctgaatttgc tcctatttct 120
 tttaaatata aagtgtctgc cttagatttt attgacaaag cagttgataa acaacaattt 180
 agggatcaga ttgaagaatg tatccgctat acctatgaga tgatgtctag ccgagaatca 240

gaagacatgt ttctatttga gaccctcag acaagggttaa aattaccta caaagatatc 300
 ctttattttg ctactgctac gacacccac aagggtgtgt tgtggactca gacggagaga 360
 ctggagtttt atggttaattt atctgagata caagctgtgg ctccaaagct tttcttatgc 420
 catagatctt acttggttaa tctagataag gttgtgcgta ttgataaatc caaacagctc 480
 ctctatttcg ataatgggga ttctgtatg gtctcacgct taa 523

<210> 2905
 <211> 287
 <212> DNA
 <213> Streptococcus dysgalactiae

<400> 2905
 tgtaaatagt aaaatcttag atggtacttt aggcattgat ttcaagtcga tttcaaaagg 60
 tgaaaagaag gtgatgattg cagcatatac gcaaatTTTT tacaccgtat cagcaaacct 120
 tctaataat cctgcggatg tgtttgataa atcagtgcac tttaaagagt tgcaacgaaa 180
 aggtgtcagc aatgaagccc cgccactctt tgtgagtaac gtagcttatg gtcgaactgt 240
 ttttgtcaaa ctagaacaaa gttctaaaag taatgatgtt gaagcgg 287

<210> 2906
 <211> 500
 <212> DNA
 <213> Staphylococcus hominis

<400> 2906
 atcgtgcttt cagttcatTT cctgtcatcc atttatgatt tttaatgatt ttaccattct 60
 ctttgatttt gtaatcaact acgtaaacag tcgtctTTTT cagttatct atattggctg 120
 tagcaccttt cataccagac atatgacttg cttctaattt aacagtatcg cccttactaa 180
 atccatcttt aggtgcatct ttaatctctt cgtttacgac ccatttatga ttgcttactt 240
 tttcatttcc atttgtgggt ttataactta caacataagc atatgtttta tacgcacctt 300
 ttacagtagc ttctgcacct ttcatacctg gcatatgcc tgctgtaac gttactttat 360
 ctctactttt aaattcacc ccttagtctg atgtcatatc ttcaggaact ttactttcat 420
 cattatgctt catatggctc tcactttttt ggctcattagt gtctttatct ttttcatcat 480
 tattggagca agctgataat 500

<210> 2907
 <211> 610

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2907

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gcaggtgatt tatttgcttc aaaccgatta ggtgaatcctt ttgcattgat tgatacaaac      60
caagtgcctg atgttctggt cagatacgaa aacagtttaa ttggccgcag taataaaaaa      120
ggccatattt ttgtgccatc ggtgacgcct tactattcgg gtaaatacag cgtcgaccca      180
atcgatttac cttcaaactt cactatcacg caagttgaac aacgtattgc tgctaaacgt      240
ggctcgggtg ttgtgattaa gttcccagtt catcagtcta tttccgcaa tgtctatttg      300
actcaggcag atggcaaacc tgtgccggtg ggggctgtag tacatagagc tgatcaagag      360
tcttcttatg tgggaatgga tggcattgtc tatttagaaa atttaaaacc gaataacacc      420
gtaacggttc agcgttcgga ccaaagtatt tgtaaagcag atttttctgt agatgtagaa      480
caagccaagc agcagattgt ggtggttaaa cctgttactt gtcacgaggt atctttgcc      540
tgaatataaa aacaaaaaaaa ttactcagac atttatgcat gttctctgga ctgatgttga      600
cgggaaatat                                     610
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<210> 2908

<211> 516

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2908

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acggtatcga aagctgaaat gcagcactcc attctttttc gatgaaatca cggttggcac      60
ttaatgaaac agtcacacca ttcatataag tcggtaaaac aggcgcccaa gacaaattta      120
agaagcgatt tttaaagtca ttgaccttgg tattgatata accgacgcca aaagttccag      180
agtttttggg cgcaaaataa gtattggccg ttaagctttt attgctattt actgaaatta      240
aattgctata ttgcagccgt gaaaggtcgg tatattcatc atcacgttgg ttatggttaa      300
tgctaaaacc aaaccgatta cggttatagc tgtatccaac tgtatattgg ttaccttcca      360
agtctttcgt tcgatcttca gacatagatt tgtcggcttt actttgggta aaagaggcac      420
tcagcacacc taaatttgca agcttgagta cagaccagc acccaataac tgtaaactcg      480
aagaaagctc ggtgcgtcct tctacagtca gccagt                                     516
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<210> 2909

<211> 18

<212> DNA

<213> synthetic construct

<400> 2909
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<210> 2910
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<400> 2910
gctcgggacc tacgtatta 19

<210> 2911
<211> 25
<212> DNA
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<400> 2911
ggtaccaagt atgatatgga tatgg 25

<210> 2912
<211> 20
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<213> synthetic construct

<400> 2912
ctgaattttg gagcaaaacc 20

<210> 2913
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<400> 2913
cttatcgaaa cgcttacgtc 20

<210> 2914
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<400> 2915

cacagcaaca aactactcaa a 21

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<210> 2923
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<400> 2923
tcacttggtta cacctgtgat g 21

<210> 2924
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<400> 2924
ttgttgatta ttgcgaactg 20

<210> 2925
<211> 20
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<400> 2925
attgatcgaa atcaccaaaa 20

<210> 2926
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<210> 2927
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<400> 2927
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<210> 2928

<211> 22
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<400> 2928
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<210> 2929
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<400> 2929
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<210> 2930
<211> 18
<212> DNA
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<400> 2930
ataaattccg gccgtatg 18

<210> 2931
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<400> 2931
atatgaaaaa cattcagaaa tcac 24

<210> 2932
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<400> 2932
agagtatctt tataatcgcc ttg 23

<210> 2933
<211> 20
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<400> 2933
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<210> 2934
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<212> DNA

<213> synthetic construct

<400> 2934

catcatgggt tgcttgac

18

<210> 2935

<211> 19

<212> DNA

<213> synthetic construct

<400> 2935

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19

<210> 2936

<211> 20

<212> DNA

<213> synthetic construct

<400> 2936

ttggtttgca gttgatattg

20

<210> 2937

<211> 19

<212> DNA

<213> synthetic construct

<400> 2937

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19

<210> 2938

<211> 18

<212> DNA

<213> synthetic construct

<400> 2938

gacggttcat agcacgac

18

<210> 2939

<211> 20

<212> DNA

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<400> 2939

tcgtgtgtta ttgcttgatg

20

<210> 2940

<211> 21

<212> DNA

<213> synthetic construct

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<210> 2942 <211> 18 <212> DNA <213> synthetic construct	
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<210> 2943 <211> 20 <212> DNA <213> synthetic construct	
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<210> 2945 <211> 19 <212> DNA <213> synthetic construct	
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<210> 2947
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<213> synthetic construct

<400> 2947
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<210> 2948
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<400> 2948
gcgcttgcaa actaactg 18

<210> 2949
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(54) Title: ANALYTICAL DEVICE FOR RAPID IDENTIFICATION OF PATHOGENS

(57) Abstract: DNA microarray for rapid identification of candida albicans in blood cultures.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/010132

A. CLASSIFICATION OF SUBJECT MATTER
INV. C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBASE, MEDLINE, PAJ, WPI Data, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>NAKAMURA M ET AL: "DEVELOPMENT OF THE DNA MICRO ARRAY FOR IDENTIFICATION OF INFECTIOUS DISEASE CAUSACTIVE BACTERIA IN HUMAN"</p> <p>18 May 2003 (2003-05-18), ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, THE SOCIETY, WASHINGTON, DC, US, PAGE(S) ABSTRNOC219 , XP008047725</p> <p>ISSN: 1060-2011</p> <p>abstract</p> <p style="text-align: center;">----- -/--</p>	1-8, 10-25

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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Date of the actual completion of the international search

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Helliot, Bertrand

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WANG R-F ET AL: "DNA microarray analysis of predominant human intestinal bacteria in fecal samples"</p> <p>August 2004 (2004-08), MOLECULAR AND CELLULAR PROBES, ACADEMIC PRESS, LONDON, GB, PAGE(S) 223-234 , XP004522575</p> <p>ISSN: 0890-8508</p> <p>abstract; tables 1,2</p> <p>-----</p>	1-8, 10-25
A	<p>LEHNER A ET AL: "Oligonucleotide microarray for identification of Enterococcus species"</p> <p>1 May 2005 (2005-05-01), FEMS MICROBIOLOGY LETTERS, AMSTERDAM, NL, PAGE(S) 133-142 , XP004876200</p> <p>ISSN: 0378-1097</p> <p>abstract</p> <p>-----</p>	1-8, 10-25
X	<p>EP 1 310 569 A (PRESIDENT OF GIFU UNIVERSITY) 14 May 2003 (2003-05-14)</p> <p>claim 14</p> <p>-----</p>	1-6, 10-13, 15,19-25
X	<p>WO 92/07096 A (MICROPROBE CORPORATION) 30 April 1992 (1992-04-30)</p> <p>page 12, paragraph 2</p> <p>page 27, paragraph 2</p> <p>example 6</p> <p>-----</p>	1-6,10, 12,13
X	<p>US 6 747 137 B1 (WEINSTOCK KEITH G [US] ET AL) 8 June 2004 (2004-06-08)</p> <p>column 2, lines 41-47</p> <p>column 16, lines 55-60</p> <p>column 19, lines 43-61</p> <p>column 42, lines 5-43</p> <p>table 2</p> <p>claim 7</p> <p>-----</p>	1-6,10, 12,13, 19-25
X	<p>EP 1 344 833 A (CHIP BIOTECHNOLOGY INC DR [TW]) 17 September 2003 (2003-09-17)</p> <p>-----</p>	1-6, 10-13, 15,16, 18-25
Y	<p>page 2, paragraphs 8,10</p> <p>page 3, paragraphs 13,18,19</p> <p>examples 1,2</p> <p>claim 8</p> <p>-----</p>	7,14,17
Y	<p>US 6 008 341 A1 (FOSTER TIMOTHY JAMES [IE] ET AL) 28 December 1999 (1999-12-28)</p> <p>figure 2</p> <p>-----</p>	7,14,17
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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/094868 A (CHIRON SPA [IT]; MASIGNANI VEGA [IT]; MORA MARIROSA [IT]; SCARSELLI MA) 28 November 2002 (2002-11-28) page 2, lines 12,13 page 2, lines 20-25 sequences 1992,3983</p>	<p>1-8, 10-15</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2006/010132

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-4 (totally), 5-8, 10-18 (partially), 19-25
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-7 and 10-25 (partially)

An analytical device for direct identification and characterisation of microorganisms in a sample or clinical specimen, wherein the device comprises species specific gene probes of at least 100 nucleotides, and in particular a device for Staphylococcus species identification, in particular for S. aureus identification, wherein, in this case, the microarray comprises the gene probe listed as SEQ ID N° 3 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

Inventions 2-176: claims 1-25 (partially)

An analytical device for direct identification and characterisation of Staphylococcus aureus in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 1-2, 4-141, 790, 798, 801, 802, 808, 812, 814, 818, 825, 827, 837, 840, 843, 844, 846, 848-852, 854, 855, 859, 862, 875, 885, 896, 897, 904, 907, 908, 935, 942, 2902, 2903, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

Inventions 177-220: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of E. coli in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 142-173, 815, 833, 834, 836, 839, 857, 860, 886-887, 895, 901, 906, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of E. coli in a sample or in a clinical specimen.

Inventions 221-258: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus epidermis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 174-208, 786, 806, 826 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus epidermis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus epidermis* in a sample or clinical specimen.

Inventions 259-269: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus haemolyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 209-215, 796, 803, 820, 938 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus haemolyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus haemolyticus* in a sample or clinical specimen.

Inventions 270-276: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus lugdunensis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 216-221, 888 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus lugdunensis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus lugdunensis* in a sample or clinical specimen.

Inventions 277-284: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus warneri* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 224-230, 831 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus warneri* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus warneri* in a sample or clinical specimen.

Inventions 285-286: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus saprophyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 222-223 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus saprophyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus saprophyticus* in a sample or clinical specimen.

Inventions 287-375: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 523-605, 793, 805, 807, 813, 858, 929 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pneumoniae* in a sample or clinical specimen.

Inventions 376-420: claims 1-4, 6, 11-12, 14-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Streptococcus pyogenes* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 645-686, 800, 856, 928 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pyogenes* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pyogenes* in a sample or clinical specimen.

Inventions 421-477: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 399-448, 792, 794, 829, 899, 902, 903, 934 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella pneumoniae* in a sample or clinical specimen.

Inventions 478-504: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella oxytoca* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 449-469, 789, 799, 816, 822, 898, 943 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella oxytoca* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella oxytoca* in a sample or clinical specimen.

Inventions 505-571: claims 1-4, 6, 11-12, 13-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Pseudomonas aeruginosa* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 470-522, 785, 787, 791, 797, 804, 821, 832, 838, 841, 842, 884, 889, 905, 926 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Pseudomonas aeruginosa* in a sample or in a clinical specimen.

A kit for the detection of *Pseudomonas aeruginosa* in a sample or clinical specimen.

Inventions 572-611: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus agalactiae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 606-644, 930 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus agalactiae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus agalactiae* in a sample or clinical specimen.

Invention 612: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus mutans* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 894 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus mutans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus mutans* in a sample or clinical specimen.

Inventions 613-633: claims 1-4, 6, 8, 10-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Enterococcus faecalis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 308-398, 809, 811, 835, 864, 865, 880, 891, 909, 933, 936 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecalis* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecalis* in a sample or clinical specimen.

Inventions 634-659: claims 1-4, 6, 8, 10-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus faecium* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 810, 817, 824, 847, 853, 861, 866-874, 876-879, 882, 900, 927, 931, 932, 939, 2887 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecium* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecium* in a sample or clinical specimen.

Inventions 660-736: claims 1-4, 6, 11-25 (partially)

An analytical device for direct identification and characterisation of *Proteus mirabilis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 706-775, 788, 830, 863, 883, 890, 892, 940 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus mirabilis* in a sample or in a clinical specimen.

A kit for the detection of *Proteus mirabilis* in a sample or clinical specimen.

Inventions 737-749: claims 1-4, 6, 11-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Proteus vulgaris* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 776-784, 819, 823, 893, 941 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus vulgaris* in a sample or in a clinical specimen.

A kit for the detection of *Proteus vulgaris* in a sample or clinical specimen.

Inventions 750-835: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Candida albicans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 231-307, 910-918 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Candida albicans* in a sample or in a clinical specimen.

A kit for the detection of *Candida albicans* in a sample or clinical specimen.

Inventions 836-864: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Acinetobacter baumannii* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2843-2863, 2865, 2866, 2868-2870, 2888, 2907, 2908 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Acinetobacter baumannii* in a sample or in a clinical specimen.

A kit for the detection of *Acinetobacter baumannii* in a sample or clinical specimen.

Inventions 865-883: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus viridans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 687-705 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus viridans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus viridans* in a sample or clinical specimen.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Invention 884: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Salmonella typhimurium* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 795 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Salmonella typhimurium* in a sample or in a clinical specimen.

A kit for the detection of *Salmonella typhimurium* in a sample or clinical specimen.

Invention 885: claims 1-4, 8, 10-13, 15-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus flavescens* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 881 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus flavescens* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus flavescens* in a sample or clinical specimen.

Inventions 886-887: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus hominis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 937, 2906 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus hominis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus hominis* in a sample.

Inventions 888-889: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Stenotrophomonas maltophilia* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2871, 2875, 2889-2901 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Stenotrophomonas maltophilia* in a sample or in a clinical specimen.

A kit for the detection of *Stenotrophomonas maltophilia* in a sample or clinical specimen.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2006/010132

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1310569	A	14-05-2003	CA 2411537 A1 JP 2003144153 A US 2003091991 A1	09-05-2003 20-05-2003 15-05-2003
WO 9207096	A	30-04-1992	AT 161893 T DE 69128639 D1 DE 69128639 T2 DK 554355 T3 EP 0554355 A1 ES 2112868 T3 GR 3026488 T3 HK 1005488 A1 JP 6502305 T	15-01-1998 12-02-1998 23-04-1998 11-05-1998 11-08-1993 16-04-1998 31-07-1998 08-01-1999 17-03-1994
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(54) Title: DNA MICROARRAY FOR RAPID IDENTIFICATION OF CANDIDA ALBICANS IN BLOOD CULTURES

(57) Abstract: DNA microarray for rapid identification of candida albicans in blood cultures.



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REVISED
VERSION

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/010132

A. CLASSIFICATION OF SUBJECT MATTER
INV. C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBASE, MEDLINE, PAJ, WPI Data, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NAKAMURA M ET AL: "DEVELOPMENT OF THE DNA MICRO ARRAY FOR IDENTIFICATION OF INFECTIOUS DISEASE CAUSATIVE BACTERIA IN HUMAN" 18 May 2003 (2003-05-18), ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, THE SOCIETY, WASHINGTON, DC, US, PAGE(S) ABSTRNOC219 , XP008047725 ISSN: 1060-2011 abstract ----- -/--	1-8, 10-25

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WANG R-F ET AL: "DNA microarray analysis of predominant human intestinal bacteria in fecal samples" August 2004 (2004-08), MOLECULAR AND CELLULAR PROBES, ACADEMIC PRESS, LONDON, GB, PAGE(S) 223-234 , XP004522575 ISSN: 0890-8508 abstract; tables 1,2 -----	1-8, 10-25
A	LEHNER A ET AL: "Oligonucleotide microarray for identification of Enterococcus species" 1 May 2005 (2005-05-01), FEMS MICROBIOLOGY LETTERS, AMSTERDAM, NL, PAGE(S) 133-142 , XP004876200 ISSN: 0378-1097 abstract -----	1-8, 10-25
X	EP 1 310 569 A (PRESIDENT OF GIFU UNIVERSITY) 14 May 2003 (2003-05-14) claim 14 -----	1-6, 10-13, 15,19-25
X	WO 92/07096 A (MICROPROBE CORPORATION) 30 April 1992 (1992-04-30) page 12, paragraph 2 page 27, paragraph 2 example 6 -----	1-6,10, 12,13
X	US 6 747 137 B1 (WEINSTOCK KEITH G [US] ET AL) 8 June 2004 (2004-06-08) column 2, lines 41-47 column 16, lines 55-60 column 19, lines 43-61 column 42, lines 5-43 table 2 claim 7 -----	1-6,10, 12,13, 19-25
X	EP 1 344 833 A (CHIP BIOTECHNOLOGY INC DR [TW]) 17 September 2003 (2003-09-17) page 2, paragraphs 8,10 page 3, paragraphs 13,18,19 examples 1,2 claim 8 -----	1-6, 10-13, 15,16, 18-25 7,14,17
Y	US 6 008 341 A1 (FOSTER TIMOTHY JAMES [IE] ET AL) 28 December 1999 (1999-12-28) figure 2 -----	7,14,17
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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/094868 A (CHIRON SPA [IT]; MASIGNANI VEGA [IT]; MORA MARIROSA [IT]; SCARSELLI MA) 28 November 2002 (2002-11-28) page 2, lines 12,13 page 2, lines 20-25 sequences 1992,3983 -----</p>	<p>1-8, 10-15</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2006/010132

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

1-4 (totally), 5-8, 10-18 (partially), 19-25

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-7 and 10-25 (partially)

An analytical device for direct identification and characterisation of microorganisms in a sample or clinical specimen, wherein the device comprises species specific gene probes of at least 100 nucleotides, and in particular a device for *Staphylococcus* species identification, in particular for *S. aureus* identification, wherein, in this case, the microarray comprises the gene probe listed as SEQ ID N° 3 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus aureus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus aureus* in a sample or clinical specimen.

Inventions 2-176: claims 1-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus aureus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° SEQ ID N° 1-2, 4-141, 790, 798, 801, 802, 808, 812, 814, 818, 825, 827, 837, 840, 843, 844, 846, 848-852, 854, 855, 859, 862, 875, 885, 896, 897, 904, 907, 908, 935, 942, 2902, 2903, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus aureus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus aureus* in a sample or clinical specimen.

Inventions 177-220: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *E. coli* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 142-173, 815, 833, 834, 836, 839, 857, 860, 886-887, 895, 901, 906, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *E. coli* in a sample or in a clinical specimen.

Inventions 221-258: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus epidermis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 174-208, 786, 806, 826 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus epidermis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus epidermis* in a sample or clinical specimen.

Inventions 259-269: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus haemoliticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 209-215, 796, 803, 820, 938 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus haemoliticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus haemoliticus* in a sample or clinical specimen.

Inventions 270-276: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus lugdunensis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 216-221, 888 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus lugdunensis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus lugdunensis* in a sample or clinical specimen.

Inventions 277-284: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus warneri* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 224-230, 831 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus warneri* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus warneri* in a sample or clinical specimen.

Inventions 285-286: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus saprophyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 222-223 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus saprophyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus saprophyticus* in a sample or clinical specimen.

Inventions 287-375: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 523-605, 793, 805, 807, 813, 858, 929 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pneumoniae* in a sample or clinical specimen.

Inventions 376-420: claims 1-4, 6, 11-12, 14-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Streptococcus pyogenes* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 645-686, 800, 856, 928 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pyogenes* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pyogenes* in a sample or clinical specimen.

Inventions 421-477: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 399-448, 792, 794, 829, 899, 902, 903, 934 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella pneumoniae* in a sample or clinical specimen.

Inventions 478-504: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella oxytoca* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 449-469, 789, 799, 816, 822, 898, 943 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella oxytoca* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella oxytoca* in a sample or clinical specimen.

Inventions 505-571: claims 1-4, 6, 11-12, 13-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Pseudomonas aeruginosa* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 470-522, 785, 787, 791, 797, 804, 821, 832, 838, 841, 842, 884, 889, 905, 926 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Pseudomonas aeruginosa* in a sample or in a clinical specimen.

A kit for the detection of *Pseudomonas aeruginosa* in a sample or clinical specimen.

Inventions 572-611: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus agalactiae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 606-644, 930 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus agalactiae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus agalactiae* in a sample or clinical specimen.

Invention 612: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus mutans* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 894 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus mutans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus mutans* in a sample or clinical specimen.

Inventions 613-633: claims 1-4, 6, 8, 10-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Enterococcus faecalis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 308-398, 809, 811, 835, 864, 865, 880, 891, 909, 933, 936 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecalis* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecalis* in a sample or clinical specimen.

Inventions 634-659: claims 1-4, 6, 8, 10-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus faecium* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 810, 817, 824, 847, 853, 861, 866-874, 876-879, 882, 900, 927, 931, 932, 939, 2887 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecium* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecium* in a sample or clinical specimen.

Inventions 660-736: claims 1-4, 6, 11-25 (partially)

An analytical device for direct identification and characterisation of *Proteus mirabilis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 706-775, 788, 830, 863, 883, 890, 892, 940 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus mirabilis* in a sample or in a clinical specimen.

A kit for the detection of *Proteus mirabilis* in a sample or clinical specimen.

Inventions 737-749: claims 1-4, 6, 11-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Proteus vulgaris* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 776-784, 819, 823, 893, 941 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus vulgaris* in a sample or in a clinical specimen.

A kit for the detection of *Proteus vulgaris* in a sample or clinical specimen.

Inventions 750-835: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Candida albicans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 231-307, 910-918 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Candida albicans* in a sample or in a clinical specimen.

A kit for the detection of *Candida albicans* in a sample or clinical specimen.

Inventions 836-864: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Acinetobacter baumannii* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2843-2863, 2865, 2866, 2868-2870, 2888, 2907, 2908 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Acinetobacter baumannii* in a sample or in a clinical specimen.

A kit for the detection of *Acinetobacter baumannii* in a sample or clinical specimen.

Inventions 865-883: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus viridans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 687-705 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus viridans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus viridans* in a sample or clinical specimen.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Invention 884: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Salmonella typhimurium* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 795 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Salmonella typhimurium* in a sample or in a clinical specimen.

A kit for the detection of *Salmonella typhimurium* in a sample or clinical specimen.

Invention 885: claims 1-4, 8, 10-13, 15-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus flavescens* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 881 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus flavescens* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus flavescens* in a sample or clinical specimen.

Inventions 886-887: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus hominis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 937, 2906 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus hominis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus hominis* in a sample.

Inventions 888-889: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of Dictyostelium discoideum in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 945, 947 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Dictyostelium discoideum in a sample or in a clinical specimen.

A kit for the detection of Dictyostelium discoideum in a sample or clinical specimen.

Inventions 890-892: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of Streptococcus dysgalactiae in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2842, 2904, 2905 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Streptococcus dysgalactiae in a sample or in a clinical specimen.

A kit for the detection of Streptococcus dysgalactiae in a sample or clinical specimen.

Inventions 893-907: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of Enterobacter cloacae in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2864, 2967, 2872-2874, 2876-2886 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Enterobacter cloacae in a sample or in a clinical specimen.

A kit for the detection of Enterobacter cloacae in a sample or clinical specimen.

Inventions 908-922: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Stenotrophomonas maltophilia* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2871, 2875, 2889-2901 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Stenotrophomonas maltophilia* in a sample or in a clinical specimen.

A kit for the detection of *Stenotrophomonas maltophilia* in a sample or clinical specimen.

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Information on patent family members

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